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MEMOIRS OF THE LATE MRS. ROBINSON
Written by herself.

AMERICAN REVIEW,

AND

LITERARY JOURNAL.

Vol. 2.] For October, November, and December, 1802. [No. 4.

ART. I. *Essays, Mathematical and Physical; containing new Theories and Illustrations of some very important and difficult Subjects of the Sciences. With new Tables for computing the Latitude and Longitude at Sea, by means of Double Altitudes and Lunar Distances.* 8vo. pp. 274. New-Haven. Connecticut. Morse. 1802.

IT affords us much pleasure to see a publication on this subject from an American pen. Mathematical science will appear to have been too much neglected in this country, when it is recollectèd that this is the first treatise on the abstract and higher branches of it, which (so far as we know) has been published in the United States. In charging our country with deficiency in the cultivation of this science, it must be acknowledged that Europeans have proceeded upon reasonable grounds. We hope the example which Mr. Mansfield exhibits will soon be followed by many of our fellow citizens, and that they will emulate the zealous attachment to mathematical learning which he so laudably displays in the volume before us.

The following extract from the preface will give a general idea of the contents of this volume, and exhibit the claims of the author to the favourable attention of the public.

“ *Use of the Negative Sign in Algebra.*—This is an original dissertation, composed with a view of obviating the difficulties which occur in the study of algebra and the higher branches of the mathematics.

“ *Goniometrical Properties.*—The author, in this essay, has some claim to originality from the manner of handling it, which he hopes will be found more concise, perspicuous and easy than that of other writers in the English language on the same subject.

“*Nautical Astronomy*.—In this very important tract the reader will perceive that the first principles are the same as those in all books on this subject. The investigation of the rule, prob. 14 of time, the solutions of probs. 15, 18, 19, 20, with the practical rules resulting from them—the practical method of finding the time, page 58, &c. probs. 8, 9, 13, of latitude, and the consequent practical rules—also some of the probs. of longitude, and the practical rule for determining the effects of parallax and refraction, p. 126, are new.

“*Orbicular Motion*.—Excepting proposition 2, the whole of this essay is original; and the principles advanced, besides those contained in propositions 5, 6, were perhaps never before investigated, being in direct opposition to modern theorists who have treated of the tides.

“*Investigation of the Loci*.—Some able mathematicians, such as De le Hospital, M'Laurin, Emerson, &c. have treated of this subject. The author has taken some examples from the last-named writer, but in other respects the essay is his own.

“*Fluxionary Analysis*.—The nature of the subject, and the design of the author, would not admit of entire originality in this essay. The manner, however, of explaining the first principles, is new, as well as some of the investigations.

“*Theory of Gunnery*.—The principles of this essay, in general, may be found in Robbin's tracts; but these have been taken up *de novo* by the author, without reference to any particular writer, and some curious and original matters interspersed, which are not to be found elsewhere.

“*Theory of the Moon*.—This very intricate subject has been assumed with a view of elucidating it. New and familiar illustrations have been adduced for the benefit of the young student, who, it is hoped, will be encouraged thereby to pursue further those most important inquiries of the Newtonian philosophy.”

The first essay is an attempt to clear up certain difficulties which MASSERES and some later writers have raised on the use of the *negative sign* in algebra, and we cannot help agreeing with the author that the attack upon MACLAURIN is without any reasonable foundation. Both he and SIMPSON speak of a quantity less than nothing as absurd; but although a quantity cannot be diminished more than its whole value, yet if a distance be assumed in one direction on an indefinite right line passing through a given point A as far as another point B, as suppose 12 feet, then a greater or less distance than A B may be taken from B towards A, suppose 14 feet, which will then reach 2 feet on the contrary side of A to what B is, which should therefore have a contrary sign, whe-

ther positive or negative; but the distances are as real on the one side of A as on the other $\frac{A}{2} \frac{12}{2} \frac{B}{2}$

The title of a portion of this essay, on *Nothing and Infinity*, excited our curiosity. We know mathematicians can sometimes make an infinite deal out of nothing, while common intellects can make nothing of infinity. Both are here ingeniously shown to be the limits or boundaries of positive and negative quantities—that there are two passages from affirmative to negative, viz. through nothing and through infinity: but we cannot accede to the author's definition that by nothing is to be understood an infinitely small *quantity*. The mathematical zero is to be considered as a limit, not a non-entity; for although a surface is 0 when compared to a solid, it admits of every comparison with other surfaces. In the example given, that when the value of x is 0 or 1, the expression $\frac{1-x}{1+x}$ becomes 1 or 2, is clearly seen by the algebraic quotient being $1+x$.

The second essay, on *Goniometrical Properties*, contains the common useful relations of the different lines of a circle, which have been given by JONES, ROBERTSON, EMERSON, and others; but the algebraic symbols are quite as discouraging in some parts of this essay as in the works of the writers complained of. We think, with the author, substitutions should rarely be admitted into geometry.

The third essay, on *Nautical Astronomy*, is, we think, the most valuable, as it is the most useful part of the work before us. The author has here connected the different methods of working the lunar observation, double altitudes for finding the latitude, &c. so that they can be worked by the tables contained in the book. The theory has been copiously handled. The 14th and 15th problems, with their solutions (to find the time when the day is not known), appear to us to be new, as do the solutions to the 18th, 19th and 20th problems, showing the rationale of the practical methods of finding the time by an altitude of the sun or star, and of finding the latitude by double altitudes. Among the problems for finding the latitude, the solutions given to the 9th (p. 79), and to the 12th (p. 120), appear new to us, as they differ from those to be found in MACKAY *on the Longitude* (p. 137), for which he had the thanks of Dr. MASKELYNE.

The other practical methods of finding the latitude by sin-

gle and double altitudes are nearly the same as in the *requisite tables* published by Dr. Maskelyne.

The 6th problem (p. 113), on the correction of the lunar distance, appears to be taken from Emerson's Astronomy (p. 318). The method which was afterwards published by Emerson, in his appendix (p. 22), and which has never been noticed as the foundation of DUNTHORNE's method, should not have been omitted by Mr. M. as it is much preferable.

The 7th problem is a new investigation of LYON's method.

The 8th is an investigation of Dunthorne's from the requisite tables.

The 9th is an useful problem to find the longitude without the Nautical Almanac.

Among the practical rules for correcting the lunar distance, we were disappointed in not finding any graphical solution, such as may be found in *Mackay on the Longitude*, *Clarke's Seaman's Desiderata*, &c. the principles of which are taken from the *Chassis de Reduction* of the Abbé DE LA CAILLE.

The fourth essay, on *Orbicular Motion*, contains an investigation of some important principles relative to orbits, with a defence of the Newtonian theory of the tides, demonstrating an error in ROWNING and FERGUSON on this subject. A calculation is made to prove that the water of the largest lake could not be affected by the moon's and sun's attraction more than one-sixth of an inch; in which Mr. M. agrees with DE LA LANDE.

The investigation of the *Loci*, in the fifth essay, is a concise treatise on a very important and difficult branch of the higher mathematics, which has been treated also by the Marquis DE LE HOSPITAL, in his *Conic Sections*, and by Emerson. From the last has been taken some examples, but many of the solutions are new.

The essay on the *Fluxionary Analysis* contains an illustration of its principles, its great use in determining the maxima and minima of quantities, and in drawing tangents. Mr. M. also gives some account of the higher order of Fluxions. His definition of a *fluxion*, that it is the velocity by which the parts of varying magnitude are successively arising, is not strictly accurate. According to SIMPSON, a fluxion is a portion of magnitude actually supposed to be generated, in a given time, by its velocity or ratio of increase continued uniformly.

The *Theory of Gunnery* shows the very great resistance of the air to military projectiles, and its effect on their deflection.

and incurvation from the line of direction, and how this effect may be, in a great degree, obviated by the rifle-gun. The quantity of resistance for particular degrees of velocity, the author observes (p. 241), may be derived from experiment: and we may add that Dr. HUTTON's experiment, giving the resistance of a bullet of 1.965 inches diameter for velocities from 5 to 2000 feet per second, might well have been inserted as compared with the theory.

In the eighth essay the principal irregularities of the lunar orbit, the most intricate and difficult part of astronomy, are here shown in as clear and comprehensive a manner as so abstruse a subject will perhaps admit. Subjoined is a short explanation of the aberration of the fixed stars, arising from the motion of light, with rules for calculating the effect both in longitude and latitude. The *Tables* which accompany these essays are chiefly taken from those in the *requisite tables*, excepting the one of double logarithmic sines, which is adapted to the examples in the work. They are to five places of figures as far as the 45th degree, and afterwards to six places.

We remark a typographical error in the double sines, from 44 deg. 55 min. to 44 deg. 60 min. of 14 instead of 15; and in the secant less radius of 45 deg. 1 min. it is 94 instead of 64. These are not noticed in the *errata*.

It was our intention to have selected a portion of each essay, to enable our mathematical readers to form a better judgment of the methods of investigation and analysis presented by Mr. M. but it not being convenient for us to give the necessary diagrams for the purpose, we must refer them to the book itself. The author has displayed considerable learning and ingenuity; and we shall be happy if, by the brief notice we have here taken of his productions, we can draw the attention of the public to his merits, or excite others to explore the higher regions of mathematical science.

ART. II. Communications on different Subjects: addressed to the Bahama Agricultural Society. 4to. pp. 63. Nassau (New-Providence). Eve. 1802.

IT appears that this society was instituted in the year 1801. The motives which led to its formation are mentioned in "a letter from Lieutenant-Colonel Brown to Mr. Hall, Caicos." The wealth, the increased population and commerce of Nassau, are ascribed to privateering, the sale of

prize goods, and the Spanish trade; advantages afforded to these islanders by the late war, and which, of course, must disappear with the restoration of peace. When these temporary causes of opulence have ceased to operate, the Bahamas must rapidly decline, unless other and more permanent sources of wealth are discovered and improved. To agriculture, therefore, and the improvement of the natural advantages of their soil and climate, in the culture of new plants, Col. Brown directs the attention of the inhabitants. The failure of the crops of cotton, a plant which had flourished so well in these islands, had induced many to despair of finding any means of profit in the cultivation of the soil. So powerful has been the effect of this opinion, with the return of peace, that Col. B. is persuaded, that, without some immediate and powerful efforts of an association like the one now formed, the out-islands will be almost deserted.

In this letter, which constitutes the first paper in this collection, Col. Brown points out the method of restoring the grounds, exhausted by cotton, to fertility—recommends the most proper *grasses for pasture—trees for the food of stock, and for ornament—the raising of bees—cement for terraces—the cultivation of tobacco—different kinds of provision for the negroes—the digging of wells of fresh water—the use of different manures—and the culture of the indigo plant.*

The other papers are, 2. *Experiments on the productiveness of the sugar-cane in the Bahamas*, by James Tait, Esq. 3. *Directions for the culture of coffee*, by Duncan Stewart, Esq. of Jamaica. 4. *A letter from Dr. Brickell, of Savannah, on the advantage of covering up manure to prevent its exhalation and dissipation*. 5. *On the preservation of fruit trees*, by the president, Nathaniel Hall, Esq.—By whitewashing the trunks of the trees with strong lime-water, as high up as the small branches, and sprinkling lime-water on the leaves, the soot or smut which covered the orange, lemon and lime-trees, was removed, and the ants, and the small insects which annoyed them, were killed or driven away—the trees recovered, shot out new foliage, and became strong and vigorous.—6. *On the virtues of the chiococea, David's root, or snow-berry tree*, by the Secretary, the Rev. John Richards. This plant has been found to produce sudden and most salutary effects in the cure of obstinate ulcers. The plant is thus described:

“The shrub is of the class Pentandria, order Monogynia. The shrub is not above nine or ten feet high, at the highest,

Its long and slender branches, if so high, are supported by other trees, or trail along the ground. The leaves are elliptical, resembling those of a myrtle or a jessamine. The bark of the trunk of the tree is whitish, and the bark of the root emits a strong smell, and is of a bitter taste, resembling that of the seneka root. The corol is small and white, with the edge divided into five segments, containing five stamina, longer than the corol, with a very slender style of the same length with the stamina. The spike bearing the flowers and berries resembles that of an English white currant. The berries are round, of a snowy colour, and about the size of a small currant. In October and November the tree is covered with berries, as with a covering of snow."

7. *On the culture of the Otaheite or asparagus bean*, read before the society by the Secretary. 8. *On the gum-arabic tree*, read by the Secretary before the society. *A letter from Dr. Anderson, of St. Vincents, to Governor Dozedeswell, with an account of the exotic plants sent from the Botanical Garden in St. Vincents to the Bahama Islands.*

As this little volume will not, it is probable, fall into the hands of many of our readers, we shall extract, for their satisfaction, the list of these curious plants, with the description of them.

"List of 466 Plants, sent for the Government of the Bahama Islands, of the following Species, 53 in all: to wit,

Artocarpus Incisus, *Otaheite Bread-Fruit.*
East-India ditto,
Seed-bearing ditto, *Malabar Chesnut.*
Artocarpus Integrifolius, *Jack.*
Laurus Cinnamomum, *True Cinnamon.*
Laurus Cassia, *Cassia Lignea.*
Caryophyllus Aromaticus, *Clove.*
Cycas Circinalis, *Sago.*
Mangifera Indica, *Mango.*
Eugenia Malaccensis, *Malacca Apple.*
Inocarpus Edulis, *Otaheite Chesnut.*
Jambolisera Pedunculata, *Otaheite Plum.*
Aleurites Triloba, *Otaheite Walnut.*
Spondias Dulcis, *Otaheite Apple.*
Terminalia Catapa, *St. Helena Almond.*
Copaifera Officinalis, *Balsam Capivi.*
Quassia Amara, *True Quassia.*
Mimosa Nilotica, *Gum-Arabic.*
Curcuma Longa, *Turmeric.*
Tecktona Grandis, *Tecktona.*

- Myristica Americana, Tobago Nutmeg.*
Thea Viridis, Green Tea.
Olea Europea, Olive.
Carolinea Princeps, Tobago Bread-Nut.
Aloe Perfoliata, Succotrine Aloe.
Cinchona Cymosa, St. Lucia Bark.
Maranta Arundinacea, Arrow-Root.
Cordia Dichotoma, Otaheite Yellow Dye.
Sapindus Edulis, Letchee, Chinese.
Acca Disticha, Gooseberry-Tree.
Averrhoa Bilimbi, Cucumber-Tree.
Areca Catechu, Areca or Beetle-Nut.
Quassia Simaruba, Simaruba.
Epidendrum Vanilla, Vanilla.
Convolvulus Batatas, Six Weeks Potatoe.
Kämpferia Galenga, Galengal.
Otaheite Plantain, two kinds.
Andropogon Schananthus, Lemon-Grass.
Prunus Noyeau, Noyeau Plant.
Bourbon Cotton.
Dorstenia Contrayerva.
Bignonia Ophthalmica, Eye Vine.
Ilex Vamatoria, Paraguay Tea.
Justicia Pectoralis, Garden Balsam.
Asclepias Asthmatica, East-India Ipecacuanha.
Piper Nigrum, Black Pepper, as yet doubtful.
Piper Betel, Betel Plant.
Piper Longum, Long Pepper.
Cissampelos Pareira, Pareira Brava, of the Brasils.
Cactus Cochinchilifer, Cochineal Plant.
Aristolochia Odoratissima, West-India Snake-Root.
Allamanda Cathartica.
Tacca Pinnatifida, Otaheite Potatoe, a root.

“ Description, Uses, &c. of the Plants.

“ The Bread-Fruit grows fast to a large tree. In a good situation it will produce fruit in two years. It loves a free circulation of air, and should be planted at no less distance than sixty feet from any other tree, and nearly the same from one another. There are six varieties or kinds of it, differing in the leaves as in the fruit: The fruit also differs in size, from four to ten lbs. weight. It is fit for use when full grown, before it begins to ripen; in that state it is known from the skin turning of a brownish colour, with external concretions of the juice. When ripe, it turns yellow and soft, to smell and taste sweet, by some esteemed as a fruit.

“ The common and best mode of cooking it, is baking it

entire as a loaf of bread, in an oven; or it may be sliced and toasted as bread without previous baking. Many like it boiled as a yam or potatoe; but, in short, it may be cooked as any esculent root. In a pudding it is excellent.

"The fruit has no seeds. Nature increases the plant by throwing up numerous plants from the roots, often at the distance of thirty or forty feet from the stem. They may be cut off when in height from six to twenty-four inches. Before that operation, the part of the root cut off with the plant must have a few fibrous roots at it, the more the better: moist weather is the properest for doing it. After planting out of the plants, they should be sheltered a day or two with small branches of any thing that will keep the sun from them: all the large leaves ought to be cut off, as they immediately wither, and are apt to infect the stem. After they are rooted they are very hardy, and require no further attention unless defending them from cattle, as they are fond of the leaves and young tops. Rats are remarkably fond of them. When they arise to the height of ten or fifteen feet, care should be taken in clearing the ground around, not to destroy the buds on the roots which form the young plants. The roots destined by nature for their purpose run horizontally on, or a little under the surface of the earth.

"The *East-India* kind was brought from Timor. It is a native of several parts of the East-Indies. Its habit is much the same as the former. The leaves are of a whiter colour, but the fruit differs much in size and shape. It is rough, the surface defaced, not of such a farinaceous substance as the Otaheitean, and at best a poor substitute for it. Like the former, it has no seeds, and like it, is increased by suckers.

"The *Seed-bearing* kind, or *Malabar Chesnut*, is also a native of the East-Indies and Ladrone Islands. It very much resembles the Otaheite Bread-Fruit, only its leaves are of a darker green and not so much cut, the branches more spreading. The fruit has prickles like the hedge-hog, and contains no esculent substance but seeds. They are nearly the size and shape of chesnuts, roasted or boiled, more farinaceous, and very nutritive. The negroes are very fond of them. This kind is propagated from its seed only, as it throws up no suckers from the roots. The seeds vegetate in a few days, and must not be kept more than two or three days.

"The fourth kind, or *Jacca Tree*, differs very much in its habit and fruit from the three former. It is an elegant tree, grows rather slower than the Bread-Fruit. The fruit is much esteemed in the East-Indies. It grows to an enormous size, but rough and ill shaped, the largest as yet known frequently forty or fifty lbs. weight. The fleshy part is yellow, very

sweet, but not relished by palates unaccustomed to it. The seeds resemble those of the Malabar Nut, and are equally good. Propagated only from seed.

" All the four thrive in various soils and situations, but loamy seems the most congenial.

" *Cinnamon*, two kinds. It thrives in any soil or situation, and is remarkably hardy. It is propagated by seeds, cuttings, and layers. In four or five years from seeds, the primary branches are fit for barking. The best time for this operation is when the sap is ascending. The bark acquires the greater part of its strength in dying.

" *Cassia Lignea*, as yet doubtful whether a distinct species from the cinnamon or not; however, that now sent under that name, very different from it. The leaves taste and smell much stronger of the cinnamon than those of the former, and in culinary purposes are a good substitute for the cinnamon. The bark has very little of the properties of the true cinnamon, except that from the trunk and larger branches. This kind is propagated from seeds only.

" The *Clove* here requires shelter from winds and rains when young till four or five feet high. There is a great probability of its thriving in the Bahamas, as it does not agree with much moisture. It may be increased by layers. The leaves are a good substitute for cloves.

The *Sago* is the hardest of plants, and will grow among rocks, but grows very slow. It increases itself by suckers from the bottom of the stem.

" The *Mango* thrives best in a moist situation, not exposed too much to the wind. Raised from seeds only.

" *Malacca Apple*, a beautiful, fast growing, little tree. The fruit cooling and pleasant. From seeds.

" *Otaheite Chestnut*, a small tree, likes a rich and rather stiff soil. The kernel of the fruit eats like the Windsor Bean. Raised from seeds.

" *Otaheite Plum*, an elegant fast growing tree. The fruit in clusters like grapes, and much esteemed. Requires a soil the same as the chestnut. It is propagated by seeds and layers.

" *Otaheite Walnut*, grows fast from seeds. The seeds used in Otaheite as a substitute for candles. Kernel esculent, as good as the walnut. It thrives in any soil or situation.

" *Otaheite Apple*, a large and fast growing tree, like the Hog-Plum, and produces very fine fruit in great abundance. It loves a good soil. Grows from cuttings and seeds.

" *St. Helena Almond*, grows very fast. Its branches extend horizontally a great distance; and form a fine shade. It thrives in any soil or situation. The kernel of the fruit small, but superior to the almond.

"The *Balsam Capivi* grows to a large, elegant tree. From the old trees the balsam exudes at certain seasons of the year, but in small quantity. It is chiefly obtained by tapping. It loves a strong clay soil, but will grow in almost any. From seeds only.

"The *True Quassia*, a valuable medicine, a small and elegant tree, will grow in sandy or rocky situations. From seeds only.

"To the *Gum Arabic*, your soil and climate are congenial.

"*Tumerick* increases itself rapidly from the roots. A common garden soil the best. The roots are dry for use when the leavess decay, like the ginger. Increased by roots.

"The *Tick*, or East-India Oak, loves a strong clayey soil. It grows to a large tree. The most durable and hard of woods.

"*Tobago Nutmeg*, is a bastard species. The nut tastes a little of the spice, the mace less. The juice of the tree is used on the continent in medicine and œconomy. It is an elegant tree, loves a low moist soil. It is not impossible but it may be improved, and acquire more of the Aroma, by change of climate and soil. The plants should be planted not far from one another, as the male and female flowers are in different individuals.

"The *Tea Plant* will thrive with you, if a rather moist soil can be found for it. It is increased from cuttings. The plants now sent shquld be kept in the boxes in a shaded situation, and watered every evening in dry weather, until they have pushed young shoots from two to three inches long, when they may be planted.

"To the *Olive*, the climate and soil of the Bahamas must be congenial. To be treated as the tea.

"*Tobago Bread-Nut*, an elegant and fast growing tree, requires a moist soil; the seeds equal to an Irish potatoe. From seeds only.

"The *Aloe*, I should think, will be at home in the Bahamas, and may be rendered an useful production. It increases itself fast by suckers.

"The *St. Lucia Bark* requires a moist soil. It is a most beautiful tree, nor is there any doubt but its bark in many cases is superior to the Peruvian.

"*Arrow-Root*, very valuable; it increases fast by roots. Your islands probably are already full of it.

"*Otaheite Dye*, a handsome shrub, grows fast from seeds.

"*Sapindus* or *Letchee*, grows to a large tree, the fruit much esteemed by the Chinese, requires a rich soil. It propagates itself by suckers from the roots.

"*Gooseberry Tree*, grows fast. It is handsome, and yields an astonishing quantity of fruit; the fruit is excellent for tarts,

and for pickling. From seeds only. It thrives in any soil or situation.

" The *Cucumber Tree*, handsome, always in flower and fruit. The fruit, sliced, with salt and pepper, not a bad succedaneum for cucumber; a strong, pleasant acid, makes an excellent pickle. From seeds. A garden soil best.

" The *Betel*, or *Areca-Nut*, an East-India luxury, but a beautiful palm, grows fast, and will thrive in the Bahamas.

" *Simaraub*, a tolerable large tree; a rather moist soil and low situation best. By seeds only.

" The *Vanilla* must be planted at the root of a large spreading tree. The more moist the situation is the better. Readily increased by cuttings.

" The *Sweet Potatoe*. The best kind in these islands, very productive; any part of the stems grow. A light or sandy soil the best.

" The *Galengal* increases itself from the roots, like the Turmeric; any soil will do.

" The *Otaheitean Plantain* is superior to the common Plantain of these islands, requires a sheltered situation; the moister the soil the better.

" The *Lemon Grass* will thrive remarkably well; well known in the *Materia Medica* as a medicine. Increased from slips.

" The *Bourbon Cotton*. The plant red, the cotton very fine.

" The *Contrayerva* delights in light sandy soil. Increased by slipping the roots.

" The *Eye Vine*, a climbing plant, should be planted at the roots of trees, or sustained by poles. The juice of the cortical part of the root, from two to three drops into the eyes, an effectual remedy in the most violent inflammation. From seeds.

" The *Paraguay Tea* will thrive in any common soil. Increased by suckers.

" *Garden Balsam*. Syrup or decoction sweetened, valuable in colds and coughs, and all complaints of the breast. The leaves bruised cure fresh wounds. Readily increased by slipping the roots.

" *East-India Ipecacuanha*, a climber, will require poles: the roots a medicine for the asthma. From seeds and slipping the roots.

" *Black Pepper*, so far doubtful whether the true or not must be planted at the roots of trees. From cuttings.

" The *Betel Plant*, to be treated as the former.

" The *Long Pepper*, ditto.

" The *Pareira Brava* requires poles.

" *Cochineal Plant*. A leaf cut off and put on the ground grows. It is the receptacle and nourishment of the Cochineal Insect.

"The West-India Snake-Root is a valuable medicine, possessing nearly the same virtues as the Virginian. Increased by slipping the roots.

"*Allamada*, is an elegant ever-flowering shrub; infusion of the leaves a cathartic; a moist soil the best. Increases by suckers.

"The roots of the *Otaheite Potatoe* resemble the common or Irish Potatoe. In Otaheite they reduce them to a farine or powder, before they are esculent; when boiled entire they are better. From roots.

"The *Noyeau Plant* is propagated by cuttings and seeds."

10. *Remarks on the trees and plants sent by Dr. Anderson which are now alive and thriving in the Bahamas.*

It appears from these remarks, that the bread-fruit tree, sago, mango, Otaheite chesnut, Otaheite apple, Otaheite walnut, St. Helena almond, quassia, Tobago bread-nut, arrow-root, gooseberry-tree, cucumber-tree, lemon-grass, cinnamon, olive, cochineal plant, gum-arabic, black pepper, and garden balsam, thrive in New-Providence. The *cochineal* is found to be a wild plant, growing in abundance in various parts of Long-Island, one of the Bahamas.

ART. III. *The History of Land Titles in Massachusetts.*

By James Sullivan, LL. D. Attorney-General of that Commonwealth. 8vo. pp. 392. Boston. I. Thomas & E. T. Andrews. 1801.

AFTER the perusal of a former work,* from the pen of the same author, we did not open this volume with any high expectations. Having attentively read the "History of Land Titles in Massachusetts," we regret that critical justice obliges us to declare that we have met with nothing to induce us to change the opinion before expressed of Mr. Sullivan as a writer.

The work now before us is divided into thirty-four chapters, the titles of which will enable the reader who has attended to the able analysis of HALE, or the more finished one of BLACKSTONE, to form an opinion of our author's talents for arrangement. There is more merit, as there is more difficulty, in a clear distribution of the topics in a law treatise than is generally allowed. Perhaps the analysis of Hale did more towards reducing into form the chaotic mass of the law than

* See vol. i. p. 291 of this Review.

any thing of the kind that has ever been written; and had we nothing else from his pen but the *analysis*, he would always live in the memory of every truly scientific lawyer. In the "History of Land Titles in Massachusetts" there is a want of method which would materially injure it, were its accuracy less questionable than it really is; and this want of method is the more surprising, as the author had within his reach the works of the eminent masters who have preceded him, and which he should at least have followed, if he could not have improved.

After a "prefatory address," or "dissertation on the principles of the common law," the work is distributed under the following titles:

- Of the property of the Aborigines.*
- Of the acquired right of the Europeans, and their conveyances to the first settlers.*
- Of the laws which governed the lands when the Europeans transferred their right to the first settlers.*
- Of fee-simple estates.*
- Of estates tail.*
- Of estates by purchase.*
- Of conveyances by release.*
- Of conveyances on condition in mortgage.*
- Of sales by authority.*
- Of grants of proprietors.*
- Of customs and prescriptions.*
- Of devises.*
- Of executory devises.*
- Of inheritances in fee-simple.*
- Of inheritances in fee-tail.*
- Of joint-tenancy.*
- Of tenancy in common.*
- Of parceners.*
- Of estates for life.*
- Of tenants by courtesy.*
- Of estates less than freehold.*
- Of estates for years.*
- Of estates by occupancy.*
- Of uses.*
- Of trusts.*
- Of remedies in real actions.*
- Of processes in partition.*
- Of remedies by actions of trespass.*
- Of nuisances.*

Of damage feasant.

Of warranty.

Of remedies in waste.

General observations on the principles of law and government in Massachusetts, and in the government of the United States of America.

The first chapter, and a considerable portion of the second, are employed in treating of the property of the aborigines in the soil, and of the acquired right of the Europeans. There appears little real use in these disquisitions, as it can be of no importance to the present land-holder whether the tawney inhabitant who saw the arrival of the first European had an exclusive right to the soil, or was a mere temporary occupant.

Among the nations on the other continent, who trace their origin and their civil institutions to the Germanic tribes, this kind of research is of real utility, as it frequently throws a gleam of light on customs and laws which, without it, would bewilder and perplex. It is probable that the author caught the idea of these introductory dissertations from the commentators on the English law; but he might have recollect ed that the laws of the State of Massachusetts respecting real property have not the most remote connection with the customs or manners of the aborigines, who had been also completely dispossessed, and in a great degree extirpated. We do not mean to say that this subject is without interest, but we think that it is rather misplaced in a work of this kind. No one will better understand the "Land Titles of Massachusetts," by being informed that it is doubtful whether, "according to the principles of learned men, the Indians had any title," or whether the European adventurers could justify their intrusion on the peaceable natives on "philosophical principles."

The desultory manner in which Mr. S. has treated this part of his work will not permit an analysis, and it would be a waste of time to notice every single, and, in most cases, insulated observation: there is, however, one which deserves remark, as it will serve to show the extent of the author's accuracy and research.

Speaking of the aborigines, he says, "The ground for hunting, fishing, &c. in the Genesee country, and in the territories still more west, is assigned by the voice of the nation or by its chief, to each tribe or family; and when the head

of a family dies, its possession reverts to the nation, and is again entirely, or in divisions, marked out for another."

Before we met with this account we had supposed that the Indians entertained no distinct notions of separate property in lands, and that it was this circumstance which rendered their civilization so difficult. But here we find that they not only acknowledge separate property, but that the partition of the domains of the tribe is a frequent national act. Had Mr. S. reflected a moment, he would have been satisfied that this practice was not congenial with either the genius or the manners of that people. The right of dominion was always in the tribe, and the members had a free and common use of the soil.

The latter part of the second chapter is occupied by an account of "the conveyances of the Europeans to the first settlers;" and as it is here that we have the first glimpse of the author as a lawyer, we will place before the reader a few sentences which relate to the English law.

The grant to the Duke of Lenox, he observes, was made in the year 1606. "The former grants had been made by all the European princes to hold of them by the adventurers as vassals, according to the tenure of the feudal system in Europe. But this was granted in *free and common soccage*; not in *capite*, nor by *knight's service*, but after the form of the royal manor of East-Greenwich, in the county of Kent." (p. 33). This species of grant, he says, was new in the transactions of that and the past ages, among the European princes.

We cannot coincide with the opinion of the author as to the novelty of this grant. Soccage holdings are, we think, as ancient as the English system of tenures and grants in soccage have been frequent in every part of the English history.

The author proceeds: "The expression is *free and common soccage*, not in *capite* or by *knight's service*. When we find what was intended by *knight's service*, and by *capite*, we shall strip the subject down to this inquiry only—what is meant by *free and common soccage*?" "The tenure by *knight's service* was where a man held lands of the king, on condition that he should attend him in his wars, and *fight* for him on *horseback*. This kind of service was due to *none* but the *sovereign*: it could not be due to any one else, not even to a superior lord of a manor." "He was called a *tenant in capite*, because he was under an obligation to perform a personal service for his estate." (p. 34.)

In this description of *knight-service* Mr. S. has fallen into an error, which is the more remarkable, as this species of tenure has been so clearly explained by BLACKSTONE, and other elementary writers. *Knight-service*, according to the commentator, was that kind of tenure in which the services were honourable, and suited to the character and feelings of a soldier, but at the same time uncertain. The services to be rendered were, as the term implies, of a *military* nature, but were not exclusively implied to a fighting on *horseback*; neither was this kind of tenure limited to holdings of the *king*.

The author has erred also in supposing that *knight-service* and *capite* are synonymous, or that tenures *in capite* were so named because the tenant was bound to a personal service. Tenure *in capite* could only be in cases where there was no *mesne* or intermediate lord, the superior being not only the source but the *head* of the title; and from the latter circumstance it was denominated a holding *in capite*. It follows that every holding of the *king ut de coronâ* was a tenancy *in capite*, and that a man could hold *in capite* as well in *socage* as by *knight-service*. Mr. S. has probably been led into this error by the expression in the grant, that the holding was to be in *free* and *common socage*, not *in capite*, nor by *knight-service*. The terms, however, are clearly distinguishable, and each hath its appropriate use. To every tenure *in capite*, whether in *socage* or by *knight-service*, *livery* and *primer seisen* were necessary incidents; and it was merely to get rid of these incidents that the grant is declared to be in *socage*, but not *in capite*; and, to mark the intention with greater force, the reference is added to the manor of East-Greenwich, which probably was held of the *king ut de persona*, and thus was not a holding *in capite*.

The remainder of the second chapter is taken up with an account of the grants within the limits of the government of Massachusetts, and of the contentions between the proprietors.

In chapter fourth Mr. S. proposes "to define a fee-simple estate *as understood in our government.*" (p. 65.)

Understanding, as we do, that the term *fee-simple* is now used in England merely to show the *quantity of interest* which the tenant may have in real property, and that it denotes an unqualified and unlimited right, our curiosity was awakened to discover what the author meant by defining "a *fee-simple estate as understood in our government,*" as distinguished from the British government. Can it be, we asked our-

selves, that a change of place has altered the signification of the expression—a circumstance not common with respect to terms of art which, by long use, have obtained an appropriate signification? or has the Massachusetts Bar waged war against the term, and employed their Attorney-General thus to bring it before the public? or have the legislature, disliking the phrase as anti-republican, interdicted its use, or deprived it of its original import? In the following passage the author proceeds to explain his meaning.

"In our country, [where] the estate is taken in succession, by force of our positive laws, by all the children of an intestate, in equal shares—where the proprietor, by deed executed, may dispose of the estate at pleasure, so that neither he or his heirs can ever claim it again but under his grantee—where he may, by his will, deprive all his children of the inheritance—where the estate is liable to the payment of the proprietor's debts before or after his death, and may be transferred, by process of law, for that purpose—we cannot but view it as very much distinguished from the English *feud* or *fee-simple* there at this day." (p. 70).

As "at this day," in England, the owner of the *fee* may dispose of the property, by deed or will, as freely as he can in this country, and as the estate "is liable to the payment of his debts, and may be transferred, by process of law, for that purpose," though not precisely in the same manner, nor in all cases to the same extent as in this country, we consider the author as unfortunate in this attempt to distinguish the meaning of *fee-simple* here from its signification in England. And in the second edition of his work, which he appears to have in view, we recommend this subject to his reconsideration.

The author proceeds to remark, that "*homage, fealty, escuage, knight-service, socage, grand serjeantry, petit serjeantry, burgage, villenage, and under rents, were frequently burdens incident to such estates (estates in fee-simple) as well as to estates tail.*" (p. 65.)

There is so much confusion in this sentence that it is not easy to comprehend its meaning. We have hitherto understood that, when speaking of the *tenure* by which a man held his lands, it was said that it was by *knight-service*, or in *socage*, and that their tenures drew after them certain *incidents*, which in some cases were burdens, and in others privileges; and that, when speaking of the *duration* of the estate, the tenant was said to hold in *fee-simple* or in *fee-*

tail. We have never before seen *knight-service* and *socage* denominated *burdens* incident to estates in fee.

In the passage quoted, the author appears to have studiously collected strange terms, without sufficiently regarding their import; otherwise he would not have placed together *homage*, the mere consequence of tenure, with *knight-service* and *socage*, the *tenures* themselves; nor would he have mentioned *escuage*, *knight-service*, and *serjeantry*, when it is well known that *knight-service* was the genus of which *escuage* and *grand serjeantry* were species; nor *socage*, *petit serjeantry*, and *burgage*, when, as in the former instance, *socage* was the genus of which *petit serjeantry* and *burgage* were species.

In the next passage Mr. S. says, "There could be a fee-simple estate existing in England without any of these burdens." (p. 65.)

If the author means, and he can mean nothing else, that in England there can be an estate in fee-simple without the tenant's holding by any tenure, he is certainly mistaken, and he is equally incorrect if he supposes that "a fee-simple estate" can exist there without the obligation of *fealty*.

From the burdens the author proceeds to the manner in which they may be enforced, which, we may observe, by the way, has little connection with the definition of a fee-simple estate. He remarks, "that the remedy to compel the performance of those services was by *forfeiture found on an inquest of office*, by *entry for condition broken*, or by *distress for rent where there was a rent charge or a rent seek*" [seck.] (p. 66.)

Without attempting to analyse this sentence, or to inquire to what case the author meant to apply "the entry for condition broken," or where he found authority for his inquest of office, we shall only express our surprise that he should mention *distress* as a remedy for a rent *seck*, when it enters into the very definition of that species of rent, that it *cannot* be enforced by *distress*.

In the same page, the writer, forgetting that he is defining a fee-simple, or treating of its qualities, introduces "an estate known in the old countries, called an *allodium*," which he undertakes to "describe" by a quotation from a late learned writer, which only holds up to view some of the shades that, about the time of the conquest, distinguished it from fiefs; and he refers to an act of Massachusetts, of 1692, in which, he says, the power allowed the proprietor in fee-simple is

described in the words used "long since" by Dr. SULLIVAN,* on the subject of allodial estates.

After using Dr. Sullivan's description of an allodium, and stating the coincidence between it and the act of 1692, Mr. S. makes some disjointed remarks on *socage* holdings, and then goes on to say, "one mode of inheritance peculiar to this species of tenure is called *gavel kind*, because the estate, under that particular custom, considered as a branch of free and common socage, descends to sons and *daughters equally*." (p. 67). We have often read of *gavel kind tenure*, but never before met with the term *gavel kind inheritance*. In *gavel kind* tenures the males are *preferred to females*, and therefore the estate does *not* descend to sons and *daughters equally*; but among the males, it is true, the estate is *partible*.

After a short essay on the law of descents, we are brought back to fee-simple; though now it is a "fee-simple tenure," and we are told that, "as understood in England when our ancestors came away, it had no connection with the tenure of fee-simple and common socage." (p. 69.)

We must again express our surprise that a professional man, and a writer on real property, should use such a phrase as "fee-simple tenure."

We shall not deny the author's assertion, that "when our ancestors left England fee-simple *tenures* had no connection with the tenures by free and common socage," or with any other tenure which has ever existed from the birth of feuds to the present day: but if we are to understand that there was no connection between an estate in fee-simple and the tenure by free and common socage, then we must observe that at that day there did not exist in England a tenure by socage without the fee of the lands resting in some one. Indeed, so absolutely and intimately woven with the English law was this principle, that even the king himself could not, by any form of words, give lands in such a manner as to free them from *tenure*.

Mr. S. then observes, "that the lawyers in this country, at a very early date, gave to the highest and most extensive estate in lands the appellation of a fee-simple;" and, we may add, with great propriety.

* The reader must not confound this Dr. Sullivan with the author of the book now under review. The learned writer here referred to was the late Royal Professor of Common Law in the University of Dublin, and whose "Lectures on the Constitution and Laws of England" were published soon after his decease.

Our author proceeds to say, that "in declarations in ejectment they generally declared that the defendant [plaintiff] was seized in his own demesne *as of fee*. By this they meant to say that the soil was *not* holden of a superior lord on service or duty." (p. 69). If such was the meaning of the "lawyers" alluded to, they employed very unapt terms by which to express it. We are inclined to believe that they gave to these words precisely the same force which they had in England, that is, to express the *highest estate* which an English subject could have in lands, *holden* by the established policy of the law of a superior.

We may notice, in this place, that Mr. S. speaks of the feudal services as brought into *England* by the *Goths and Vandals as conquerors*. The *Saxon and Norman conquests* are not usually called *Gothic*.

The chapter closes by a few observations on *mortgages, pews in churches, bridges, aqueducts, canals, and turnpike roads*; the rights in which are stated to be personal property in Massachusetts.

The author commences chapter fifth, *on estates tail*, by observing that, anterior to the statute *de donis*, there existed estates in fee-simple conditional. "If one (he says) made a grant to another *and his heirs*, it did not then create an absolute estate of inheritance; for if the grantee died without heirs, the condition implied in the grant was never fulfilled, and the estate reverted to the donor or to his heirs. But as soon as the grantee had a child born the condition was considered to be fulfilled, so as to empower the donee to alien in *fee*." (p. 73). Here we are presented with another very singular position of this writer. Surely he must have known that a grant to a man and *his heirs* (unless in a period of the feudal law which was long prior to its adoption in England) would have created a fee-simple. To make a *conditional fee*, it was necessary that the grant itself should contain express words of condition, as to some particular heirs in exclusion of others, as to a man and the heirs male of his body to be begotten: nay, COKE himself, at the very page to which the author refers, so defines this species of estate.

After some general observations on the policy of entailments in England, and showing when they were introduced in the colonial code of Massachusetts, the author remarks that "the estates which may be carved out of a fee-simple are *estates tail, estates for life, or freehold, estates for years, estates at will*;" and follows up the division by informing us

that "the estates tail in England called *frankalmoine*, or *frankmarriage*, were never in use here." (p. 78.)

Mr. S. is incorrect in regarding, as he evidently does, *frankalmoine* and *frankmarriage* as synonymous, or as being estates tail. The latter is partially so, but the former partakes in nothing of an estate tail. *Frankalmoine* is a *spiritual* tenure, and can only exist when the donee is a religious corporation.

From the nature of estates tail the author proceeds to treat of the manner in which the entailment may be destroyed. This, he justly observes, is done in England by a *common recovery*, which was recognised by the courts for that purpose, within one hundred years after the statute *de donis*. He proceeds to describe the process, not, indeed, very minutely or intelligibly, but we acquiesce in the remark, that the proceeding having become useless, a very particular notice of it is unnecessary. When the author enters more into detail, we find him again sliding into errors.

"Before the judgment (in the common recovery) was rendered, the mode in which the estate was to be holden, after the fee-tail was barred, was *always* settled by covenants between the parties. In these the defendant covenanted to stand seized to the use of the tenant in tail and his heirs in fee-simple. And the statute of uses vested the possession with the use upon the judgment being rendered and carried into execution." (p. 79.)

It is true that covenants were frequently made by the parties to the recovery, but it cannot be admitted that this was "always" done. Indeed, we are inclined to think that, originally, when the recovery was only intended to unfetter the inheritance, these covenants were rare. Latterly recoveries have been used not only to cut off the entailment, but to form family settlements; and covenants are now ordinarily used. But here, again, we have deeds declaring the uses, as well as deeds leading to the uses of recoveries.

There is another mistake in the sentence we have last quoted. Common recoveries were used to destroy entailments as early as the time of Edward IV. and, perhaps, may be traced still farther back. The statute of *uses* was not passed until the reign of Henry VIII. and a very little reflection would have convinced Mr. S. that, "if the mode in which the estate was to be holden was *always* settled by covenants between the parties," it could not have happened "that the statute of *uses* vested the possession with the use," since that statute was not passed until a period long subsequent to the introduction of *common recoveries*.

(To be continued.)

ART. IV. *A Catechism, designed for instructing the rising Generation into the Principles of the Christian Religion. To which is added, an Explication of sundry Terms belonging to Religion, alphabetically arranged: in which are specified the distinguishing Tenets of the various Sects and Denominations of Christians. The third Edition, with many Corrections and Additions. By William Marshall, A. M. Minister of the Gospel, Philadelphia. 12mo. pp. 243. Philadelphia. Marshall. 1802.*

IT is generally known that the *Secession* from the established Church of Scotland, which took place about seventy years ago, is not only continued in that country, where the original causes of it remain; but that the same distinction is also maintained in America, where we find *Burghers* and *Antiburghers* contending for their respective peculiarities with as much zeal as in North-Britain.

The publication under review is made by a respectable minister of the *Antiburgher* denomination, or of that religious communion known by the name of the *Associate Synod of North-America*; and appears to be intended as a compend of elementary instruction for the youth of that communion.

The *Catechism*, though more full and minute than compositions of this kind commonly are, occupies but a small portion of the volume. The larger part of it is taken up with an *Explication of sundry terms belonging to religion*. In both, the author discovers a disposition to place in the most favourable point of light the tenets of his own particular denomination. This, however, would by no means be a proper ground of complaint, if he did not, in too many instances, betray a propensity to withhold from other denominations their due, and to give a disagreeable representation of their doctrines and practice. The indications of a serious and pious mind pervade the work, but these are not more numerous than the evidences of narrowness and illiberality.

Mr. Marshall uniformly takes most liberty in speaking of those religious communities which are nearest to his own. This is easily accounted for. With these he was, no doubt, best acquainted; and he had been led most frequently to contemplate the points of difference between his own denomination and them.

Mr. M. gives the following account of the *Associate Church* in North-Britain and in America.

"Associate Church—is composed of those who are commonly denominated *Seceders*, which name was assumed by our Reformers, who seceded from the corruptions of the Romish church. Those who were driven out of the communion of the national church of Scotland were also so called. As the Secession forms a very remarkable epocha in church history, and the circumstances of it not very generally known here, it may not be improper to give a short account of its rise in Scotland, and its introduction into America.

"In the year 1732, the Rev. Ebenezer Erskine opened the synod of Perth and Sterling, in a sermon from Psal. xviii. 22. *The stone which the builders despised, is made the head of the corner;* in which he used the freedom to testify against some of the public evils of the national church, particularly the violent settlements of ministers, by patronage, for which he was judged censurable, and they ordered him to be rebuked and admonished at the bar of the *synod*. Against this sentence he protested, and appealed to the *next General Assembly*; in which protestation and appeal, he was joined by the Rev. Alexander Moncrieff, the Rev. William Wilson, and the Rev. James Fisher. The assembly approved the proceedings of the *synod of Perth and Sterling*, and ordered Mr. Erskine to be rebuked at their bar, which was done accordingly. Against this sentence, he and the other three brethren protested, and withdrew. They were summoned to appear before the *Assembly* next day, and at their appearance a committee was appointed to deal with them, to retract their protest, which they refused to do. They were appointed to appear before the commission of the *Assembly* the ensuing August, who were authorised to deal with them to retract, and upon their refusing, to proceed to *suspend* them from the *exercise* of their office. When the commission met, the four brethren refused to retract, and they accordingly did proceed to *suspend* them from the exercise of their ministerial office. Against this sentence, these brethren also protested. In November following, the commission proceeded further, by deposing them from the office of the ministry in a summary way. Upon this sentence being passed and intimated to them, they protested that they were obliged to make a *Secession* from the judicatories of the *national churches*, and declared they would hold no further communion with them, till they saw their mistake and amend; and they appealed to the *first free, faithful and reforming assembly of the church of Scotland*. This *declaration and appeal* was made on the 16th day of November, 1733.

The *Secession* thus commenced, went rapidly on, and the four brethren had eleven meetings for asking council of the Lord, mutual advice and strengthening one-another's hands; and find-

ing it indispensably necessary to assert the truths of Christ, in a judicial capacity, and give relief to the Lord's oppressed heritage, they at their twelfth meeting, on the sixth day of December, in the same year, did constitute themselves with ruling elders into a *presbytery*, bearing the *style* and *title* of the *Associate Presbytery*; which soon increased so much, that they formed themselves into a *Synod*, 1745.

"Sundry persons of this communion, having emigrated to America, who, with some others, who were dissatisfied with the Presbyterian ministers and judicatories in America, did apply to the *Associate Synod* for a supply of ministers, to labour among them, in a way of maintaining the *Testimony* for Reformation principles in this land. This application was made about the year 1750. Accordingly, the *Synod* missioned the Rev. Messrs. *Galleley* and *Arnot*, who arrived in *Pennsylvania*, 1754, and with ruling elders, constituted the *Associate Presbytery* of *Pennsylvania*. This *Presbytery* has been supplied with ministers from the *Associate Synod* as they were wanted, till of late years they have raised several young men for the ministry from among themselves. The ministers and people of this communion in *North-Britain*, as they have *seceded* from the National Church there, are more properly styled *Seceders* than the *Associate* body in *America* are so called; because the ministers never *seceded* from the *Presbyterian*, or any other *Church* in this land, and the greater part of the people were originally of the *Secession Church* in *Britain* or *Ireland*. If some persons have left the communion of the *Presbyterian* body in *America* to join us, there are also some, who were originally *Seceders*, who have relinquished their profession, and joined them. The reasons why the *Associate* body maintain a distinct capacity from others, are stated in the *Declaration* and *Testimony* for the doctrine and order of the *Church of Christ*. In the present state of things there are many belonging to the *Secession Church*, who find it their interest to emigrate to this country. These people are in general sober, industrious and peaceable members of civil society, yielding a ready obedience to civil authority; therefore it is conducive to the interests of the *United States*, that the *Associate Church* should exist here, as well as others.

"The principles of the *Associate Church* are so far from being sectarian, that they are of general concern to the Protestant Churches. And we are so far from pleading for a separation on account of every corruption in a church, that this is only plead for, when churches refuse to be reformed, and obstinately persevere in a course of backsliding.

"*Associate Synod of North-America*—was constituted at *Philadelphia*, on the 20th May, 1801. There are four *Presbyteries*

under their inspection, viz. the Associate Presbytery of *Philadelphia*, the Associate Presbytery of *Chartiers* (both in Pennsylvania), the Associate Presbytery of *Cambridge*, in the State of New-York, and the Associate Presbytery of *Kentucky*. Their declared principles are contained in the Westminster Confession of Faith, the Larger and Shorter Catechisms, the Directory for worship and form of presbyterial church government, as these are received, and explained in the Declaration and Testimony for the doctrine and order of the Church of Christ, which was agreed to by the Associate Presbytery of *Pennsylvania*, 1785. Public covenanting has been gone about in several of their congregations—They make the same profession of the faith of Christ, with the General Associate Synod; only in a way of its being accommodated to the state of things in *America*. This Synod has the full power of government and discipline, over those under their inspection, and there lies no appeal or reference from it to the General Associate Synod, in matters of scandal, or personal offence."

The style of this performance, though generally perspicuous, is by no means polished, and is sometimes inaccurate. To the graces of composition, the author, if he had any acquaintance with them, seems not to have aspired.

We are sorry to learn that, since the publication of his work, the author has been removed by death. This event will, no doubt, be considered a serious loss, particularly by that body of christians to which he belonged.

**ART. V. *The History of Cambridge.* By Abiel Holmes, A.M.
a Member of the Massachusetts Historical Society. 8vo.
pp. 67. Boston. Hall. 1801.**

THIS memoir was published in the last volume of the *Collections of the Massachusetts Historical Society*, and, in the account which we gave of that volume,* was slightly noticed. But, being published in a detached form, it may be proper to call the attention of our readers more particularly to its contents and character.

Mr. Holmes begins with a *topographical description of Cambridge*; in which he gives particular statements of the boundaries, latitude and longitude, soil, timber, rivers, number of acres, houses, and inhabitants of the town, together with numerous details respecting the churches, colleges, and

* See vol. i. p. 304.

public buildings in general—the manufactures, and various other objects worthy of attention. He then proceeds to give *the history of Cambridge*, exhibiting an account of its first settlement, in 1631, its subsequent progress, and its present situation. In this part of his work, which is by far the largest, Mr. H. dwells particularly on the church of which he is pastor; traces its rise, growth, and changes, with minute care; and concludes with biographical sketches of its successive pastors. These details are by no means destitute of entertainment to general readers; and they will, no doubt, be perused with more than common interest by the inhabitants of Cambridge.

In entering on the perusal of this history, we fully expected to find an ample and satisfactory account of the rise, progress, and present state of *Harvard College*, certainly the most remarkable and interesting object to be found in Cambridge. In this, however, we were disappointed, and we could not help regretting the disappointment. Mr. H. was, perhaps, deterred from introducing much on this subject into his work, by recollecting what had been written respecting it by Dr. Mather, in his *Magnalia*, and by Dr. Clarke, in his *Letters to a Student in the University of Cambridge*, to say nothing of several intermediate writers who have recorded many facts concerning that old and venerable institution; but we think his pamphlet would have been rendered far more valuable had he compressed into his narrative a good abstract from the best of those writers, and presented the reader, in one view, with that information for the attainment of which he must now consult so many separate works.

We have only to add, that the style of this historical memoir is simple, perspicuous and agreeable; and that we wish every town in the United States might find an historian equally faithful, minute and instructive.

ART. VI. Collections for an Essay towards a Materia Medica of the United States. By Benjamin Smith Barton, M.D. Professor of Materia Medica, Natural History and Botany in the University of Pennsylvania. Part 1st. 8vo. pp. 64. Second Edition. Philadelphia. Carr. 1801.

CONSIDERING the importance of this article, we owe an apology to our readers for the long delay of bringing it before them. Publications of this kind are so rare and in-

teresting in the United States, that we fully recognize the duty of seizing the earliest opportunity, as far as our influence extends, to direct towards them the attention of our countrymen.

It must occur to every person of reflection, that the knowledge of the nature and medicinal properties of the indigenous vegetables of a country so imperfectly explored as the North-American continent, cannot fail to add greatly to the improvement of Botany and Medicine. This subject, hitherto too much neglected, is undertaken by our author with all the zeal and intelligence which distinguish his various and multiplied researches. And if an anticipation of the merits of the entire work may be formed from the first part, we do not hesitate to pronounce that the completion of it will be a very valuable acquisition to the public.

The chief object of this performance is to turn the attention of our physicians to an investigation of the properties of our native productions. It is too common in this country to import medicinal articles from abroad, at great trouble and expense, while similar, and, in some instances, superior remedies, may be found in great plenty among our domestic productions. Public economy and political independence are concerned in the encouragement and extension of our author's object.

The present is the second edition of this work. Such of our readers as may have seen the first, will find this considerably increased in value by the addition of a number of notes at the bottom of the page. The author has likewise added an appendix, which contains, besides almost all the remarks included in the appendix of the former edition, a large portion of interesting matter, much of it of a practical kind, which had no place in the original publication.

After dividing his subject into the two parts of *Materia Alimentaria* and *Materia Medica*, more strictly so called, according to the usual plan of writers on this department of medicine, the author proceeds to distribute the facts he has collected under the nine following heads: viz. 1. *Astringents*; 2. *Tonics*; 3. *Stimulants*; 4. *Errhines*; 5. *Sialogoga*, or *Salivating Medicines*; 6. *Emetics*; 7. *Cathartics*; 8. *Diuretics*; 9. *Anthelmintics*.

As specimens of the valuable matter contained in this work, we offer the following quotations.

"*Liriodendron Tulipifera*. In some parts of the United States, the bark of this tree has been used, and has acquired

much reputation, as a remedy in cases of gout and rheumatism. As a medicine possessing properties very nearly allied to those of the *callida amara*, or heating bitters, which have, for ages, formed a part of the celebrated gout-powders, I think it not improbable, that the Liriodendron may have been used, with the seeming advantage of putting off, for a time, the inflammatory paroxysm of the gout. But the well-known history of the gout-powder is not calculated to encourage one to use (as a remedy, for the worst of diseases) a medicine which might only alter the shape of the disease, and give it a direction to the more essentially important part of the human frame.

"*Datura Stramonium*. Since the publication of the first edition of my *Collections*, I have had many opportunities of employing this medicine. I have used it chiefly in the form of an extract, prepared from the fresh leaves. I have principally exhibited it in cases of mania and epilepsy. I cannot hesitate to say, that it is a medicine of great and invaluable powers. It is my intention to publish the particulars of the cases in which I have employed this medicine, in a separate work.* I shall, therefore, content myself, in this place, with observing, that I have found the Stramonium especially beneficial in cases of mania attended with little or no fever, or with a cold skin, and languid circulation. I have thought it necessary to give the medicine in very large doses. Beginning with a few grains, the dose is gradually increased, and in a few days it may, with safety, be taken to the extent of fifteen or twenty grains. In one case of mania, I, at length, gave it to the extent of sixty grains at a dose. When the patient had continued upon this dose for some time, she broke out into biles upon various parts of the body, and was, at length, discharged from the Hospital, perfectly cured. In several other cases of mania, the Datura has been of essential use. Except in one case, I have not perceived any inconvenience from it. In this case, whilst the patient was taking the medicine to the extent of thirty grains, it produced a very enlarged dilatation of the pupil of the left eye, and a palsy of the palpebra of the same eye. But even this was only a temporary inconvenience, which was removed, in a very short time, by the application of a blister. The patient resumed the use of the extract, and was finally discharged from the Hospital, apparently cured.

"The beneficial effects of the Stramonium in cases of epilepsy have been likewise very manifest. In a case of epilepsy, accompanied, at various periods, with fever, the medicine seemed to increase the sense of fulness in the head, and other

* Medical Facts, Experiments, Observations and Inquiries.

disagreeable symptoms. But in several other cases, I exhibited it with the most manifest advantage. Although in no case have I been able to effect a cure with the Stramonium, I have, certainly, administered it with the effect of protracting the fits, and of diminishing their violence. Perhaps, much more than this cannot be said, with a strict regard to caution, of any other of the many medicines which have been recommended for the cure of epilepsy.

"I have been informed, that in the State of Kentucky, the seeds of the Stramonium are sometimes exhibited, with advantage, in cases of chronic rheumatism. On this subject I cannot say anything from my own experience. The seeds of this vegetable are, unquestionably, endued with very active powers. This is abundantly evident from the pernicious effects which are so frequently observed in children, who have swallowed the seeds. Dr. John Archer, of Maryland, has found them of much advantage in cases of epilepsy.* I have used them, with seeming benefit, in a case of mania.

"*Rhus*, or *Sumac*. 'In many persons' the *Rhus radicans*, *Rhus Vernix*, and *Rhus Toxicodendron*, 'induce a peculiar and very troublesome vesication, which I have frequently removed, in a short time, by means of a mercurial wash.' I have employed, in these cases, an aqueous solution of the muriate of mercury, or corrosive-sublimate. Nothing that I have made use of has so effectually removed the disagreeable symptoms as this lotion. Its good effects are very speedily perceived. Many other applications are made use of, in various parts of the United States. The principal of them are prepared from vegetables. That some of these do good, I shall not deny: but, compared to the preparation of mercury, which I have mentioned, they are very inert applications. Of the vegetables, I think I have employed none with such decided advantage as the juice (mixed with cream) of a native species of *Urtica*, or Nettle; perhaps the *Urtica pumila* of Linnæus—'It is said that the bark of one* species (but I cannot tell you what species) has been found useful in intermittents.' Perhaps, it is the bark of the *Rhus glabrum*, or Smooth Pennsylvania Sumac. The juice of the Upland-Sumac (*Rhus glabrum*) is said to be excellent for removing warts, and also tetter. It is applied to the affected parts. This shows, that even this species, which is generally deemed innocent, possesses some active quality. Indeed, I am inclined to think, that all the American species of the genus *Rhus* are poisons to *some* constitutions. I am assured, that the *Rhus typhinum*, or Stag's-horn Sumac, has affected the skins of certain persons,

* See Dr. Cooper's Inaugural Dissertation, &c. p. 52—54.

in the same manner as the *Rhus radicans*, &c. Yet the *Rhus typhinum* is generally considered as an innocent species. In some parts of the United States, the *Rhus glabrum* is called 'Indian Salt.' It is said, that the Indians employed the saline powder which invests the berries, as a condiment to their animal food. They also employ this substance as a mordant, or fixer, for the red colour with which they dye the quills of the porcupine. They use other mordants for the same purpose.—With great satisfaction, I refer the medical and philosophical reader of these *Collections*, to Dr. Thomas Horsfield's *Experimental Dissertation on the Rhus Vernix, Rhus radicans and Rhus glabrum*. This dissertation, which was published in Philadelphia, in 1798, reflects great honour upon the ingenious author, and even credit upon the University which gave it birth.

"*Polygala Senega*. Since the beginning of the year 1798, I have employed a strong decoction of this plant in several cases of *cynanche trachealis*, or hives. I am persuaded, that the *Seneca* is a very important medicine in the treatment of this common, and too frequently unmanageable disease; and praise, in my opinion, is due to Dr. Archer for his important discovery: for such I cannot but deem it. That the *Seneca* is a specific, or certain remedy, for the cure of the croup, I do not believe: but, from my own experience, I am led to repose more confidence in the use of this medicine than in any other. I have made use of a very strong or saturated decoction of the root. I have always given it in large quantities. It appears to be chiefly beneficial, when it occasions an expectoration of mucus, and when it proves emetic. It is also very useful by virtue of its purgative quality. But I have known it to occasion very plentiful stools, without benefiting the patient. Indeed, in the exhibition of the *Seneca*, I would rather wish to guard against *large* purging. I have sometimes treated my patients *almost* entirely with the *Seneca*. Even in such cases, I have perceived most unequivocal good effects from it. But I have, more generally, given, along with the *Seneca*, calomel, and sometimes calomel combined with ipecacuanha. I have not omitted the employment of the lancet (though this, in many cases of croup, is not absolutely necessary), and the use of blisters, or sinapisms, applied near to the seat of the disease. I am happy to close this short notice by observing, that several respectable physicians in Philadelphia inform me, that they have used the *Seneca*, with much advantage, in the disease in question.—For the particular manner in which Dr. Archer uses this medicine, I must refer the reader to his letter addressed to me, and published in the *Medical Repository of New-York*.*

* Vol. II. No. 1. Art. vii.

I have had no experience with the Seneca in cases of pneumonia. Notwithstanding what has been so frequently said concerning its great efficacy in this disease, I confess that I cannot believe, that it is a medicine adapted to the very first stage of pneumonia, while violent inflammatory symptoms are still present. After the liberal use of the lancet, it is highly probable, that the Seneca will be found a very important medicine. In the pleurisy, as it is called, which prevails in many of the low and marshy countries of the United States, I do not doubt, that it has been of real use. This pleurisy, or pneumonia, is a true intermittent or remittent, attended with a local pain, either in the side or in the head. When the pain is principally confined to the head, the disease is called (a ridiculous name) 'the pleurisy in the head.' In either case, it is a complaint in which stimulating medicines (and such the Seneca is) have been exhibited with advantage. In cases of this kind, though bleeding is often necessary, it will not be sufficient to effect a cure. Even blisters fail to destroy the type of the disease. In my own hands, the Peruvian bark has been exhibited, during the remission of pain, with the happiest effect in preventing the recurrence of the violent paroxysm.

"*Spigelia Marilandica*. In some parts of Carolina, &c. this invaluable plant is known (among other appellations) by the name of Snake-root. It is the *Unstreetla* of the Cheerake Indians. Every part of the plant is possessed of the anthelmintic property, and accordingly in Carolina the physicians employ the whole plant; chiefly in decoction.* But the active power unquestionably resides more especially in the roots. It is the opinion of many persons, that the deleterious effects which occasionally occur from using this vegetable do not arise from any pernicious property inherent in the Spigelia, but from the root of a distinct plant which is often mixed with the Spigelia. I do not think this notion is entitled to any serious attention. The Spigelia is, without doubt, a poisonous and narcotic vegetable. It is, in all probability, by virtue of this poisonous quality, that it proves so beneficial in cases of worms. I am acquainted with a very intelligent physician, who, in the exhibition of the Spigelia, always deems it necessary, or proper, to persevere in the use of the medicine, until it produces some very decided effect upon the brain. I must confess, however, that I have often found it completely efficacious, without observing that it has occasioned the least inconvenience to the system. That it has sometimes done mischief, will not, I believe, be denied. Pro-

* Both Lining and Garden were generally in the habit of using the Spigelia in substance; and this is, unquestionably, the most precise method of employing it. In Philadelphia, an infusion or decoction of the plant is more commonly made use of.

fessor Bergius informs us, that he has known instances of convulsions cured by the Spigelia, although no worms were expelled by it.* Dr. Garden, speaking of this plant, says, ' It especially answers in continued or remitting low worm-fevers, in which I use its decoction, adding a small proportion of the root of the serpentaria Virgin. Its effects in abating the feverish exacerbations are so considerable, that in these I consider it as the most powerful sedative.'† It is an excellent attenuant.'‡ I have been induced to take notice, in this place, of the observations of Bergius and Garden, because a pretty extensive use of the Spigelia, has now convinced me, that this medicine very often affords relief, and indeed effects a cure, in cases in which worms are supposed to be present, but in which none are discharged. If I do not greatly mistake, this will be found an highly useful medicine in some of the febrile diseases of children, unaccompanied by worms, especially in the insidious remittent, which so frequently lays the foundation of dropsy of the brain.

" *Common Tobacco.* There is a peculiar mode of employing the leaves of the tobacco in cases of worms, which I cannot avoid mentioning in this place, especially as it has, in many instances, produced very happy effects. The leaves are pounded with vinegar, and applied, in the shape of a poultice, to the region of the stomach, or other part of the abdomen. In consequence of this application, worms are often discharged, after powerful anthelmintics have been exhibited internally in vain. We ought not to be surprised at this effect of the Tobacco, since we know, that the same vegetable, applied externally, is often very efficacious in inducing vomiting. Accordingly, I have, for some years, been in the habit of applying Tobacco-leaves to the region of the stomach of persons who have swallowed large quantities of opium, and other similar articles, with the view to destroy themselves. It is well known, that in these cases the stomach is often extremely inirritable, insomuch that the

" * *Materia Medica e Regno Vegetabili, &c.*"

" † That the Spigelia is a sedative, taking this term in the sense in which it generally is, and always ought to be, employed, I do not believe, notwithstanding the very respectable authority of Dr. Garden, and the high authority of Dr. Darwin. This last mentioned author (to whose genius and extensive learning I am always willing to pay due deference) arranges our celebrated anthelmintic in his class or article of *Torpentia*. (See *Zoonomia*). With much more propriety he might have arranged it in his second article, to which he has given the name of *Incitantia*. In fact, the effects which the Spigelia exerts upon the human system are very similar to those which *Datura*, and other similar articles (confessedly stimulants), are known to exert. In particular, the operation of the Spigelia upon the brain very decidedly demonstrates its stimulant power."

" ‡ *Essays and Observations, Physical and Literary.* Vol. III. Art. x. p. 149."

most powerful emetics have little effect in rousing that organ into action. Here, as an auxiliary at least, the Tobacco, used in the manner I have mentioned, is, certainly, very useful, and, in many instances, ought not to be neglected.

"*Melia Azedarach.* When I published the first edition of my *Collections*, I had not *any* experience in the use of this vegetable. Since that period, however, I have used it in several cases of worms, and always with advantage. Indeed, I am inclined to think that the character of this new anthelmintic has not been too highly drawn. I will not assert that it ought to be preferred to the Spigelia; for I have had much more to do with this than with the Melia. The Melia is unquestionably a valuable anthelmintic, and ought to be introduced into general practice. I have employed the bark of the root, both in substance and in the shape of a saturated decoction. In the case of an adult who took the decoction in large quantities, *with the effect of discharging great numbers of worms*, it seemed to occasion some confusion of head, and trembling of the hands. These, perhaps, were accidental symptoms; but I am disposed, with the patient, to ascribe them to the medicine. The worm-cases in which I have found the Melia useful, were cases of the common round worm, or *Lumbricus Intestinalis*. I have not had any opportunity of trying how far it is a remedy against the *tænia*, or tape-worm; but I am informed that, in Carolina, it has been used with the effect of discharging great numbers of this species of worm. Should this prove to be the case, the Melia will be doubly entitled to our attention as an article of the *materia medica*. It is not merely in cases of worms that this vegetable has been found useful. Mr. Andrew Michaux, an intrepid French botanist, informed me, that in Persia, where this tree grows spontaneously, the pulp which invests the stone of the fruit is pounded with tallow, and used as an 'antiphoric' in cases of *tinea capitis* in children.

"Is the Melia a narcotic or poisonous vegetable? Its remarkable effects in destroying and dislodging worms renders this probable, but not certain: for many articles which, with respect to the human body, are entirely innocent, are known to be noxious to intestinal worms, and many other animals. Such is sugar, as has been demonstrated by the experiments of Redi, Carminati, and other writers. The case which I have alluded to renders the deleterious quality of this vegetable very probable. I may add, that in some parts of Carolina, the root is deemed poisonous. Horses and horned cattle, however, eat with impunity, the leaves and berries. Certain species of birds (particularly the *Turdus migratorius*, or Robin, and the *Turdus Polyglottus*, or Mocking-bird,) devour the berries in such large

quantities, that after eating of them, they are observed to fall down, and are readily taken. Does not this circumstance render it probable, that the berries contain an intoxicating quality? This, however, I believe is not the general opinion of the inhabitants of Carolina, who ascribe the condition of the birds merely to the circumstance of their having eaten so abundantly of the berries, that they injure entirely by distention. The ripe berries have a sweetish, but nauseous taste.

"As the Melia is now completely naturalized to the States of Carolina and Georgia, it may not be amiss to close this article by observing, that the fruit of this vegetable is employed in Japan for furnishing an expressed oil, which grows hard like tallow, and is used for making candles.* May not our fellow-citizens, to the south, render it worth their attention to follow the example of the Japanese, in the instance I have mentioned?"

It gives us pleasure to observe the learned author's promise to publish at least one more part, relative to other indigenous medicinal productions of the United States. For such an additional volume, he informs his readers that he is already in possession of sufficient materials. We are confident that the lovers of botanical and medical science, and all who can feel a becoming interest in the scientific reputation of our country, will be anxious to see the completion of the work.

ART. VII. Reports to Benjamin Stoddert, Secretary of the Navy, on the Subject of Docks, and Remarks relative to the Ports and Harbours of the Eastern States. By Joshua Humphreys. 8vo. Washington. Duane. 1802.

MMR. HUMPHREYS was employed, in the year 1800, by the Secretary of the Navy, to survey the several ports in the Eastern States, for the purpose of ascertaining the best places for docks and navy yards. The result of his examination is contained in these Reports, which constitute the chief portion of a communication of the Secretary of the Navy to the Chairman of the Select Committee of the House of Representatives, to whom was referred that part of the message of the President which related to naval preparations, and scites for naval purposes. These documents having been published, it will be satisfactory to many of our readers, who may not have an opportunity to peruse them, to be made ac-

"* See Professor Thunberg's Travels in Europe, Africa, and Asia, &c., &c. Vol. iii. p. 228. English translation. London. 1795."

quainted with their contents. We shall extract that part which states, in clear and concise terms, the comparative advantages and disadvantages of the several ports surveyed by Mr. Humphreys.

"REMARKS AT NEW-LONDON."

"*Advantages.*—1st. A sufficient depth of water in the channel.

" 2d. A good situation on Winthrop's Point for a dry dock, with a sufficient quantity of ground.

" 3d. A good stream of water for the use of dock, for pumping, sawing, &c.

" 4th. A good cove for docking timber.

" 5th. Still water in the harbour.

" 6th. Good anchorage.

" 7th. Plenty of good stone for the dock.

" 8th. The small comparative expense in fortifying.

" 9th. The advantage of being quick at and from sea.

"*Disadvantages.*—1st. The harbour below Winthrop's Point is not sufficiently large for such a navy as the United States must have; and above this point the river is frequently full of ice, the breaking up of which makes it dangerous to vessels which lay in it.

" 2d. The impossibility of entering this port with a north-west wind, which is the most prevailing wind in the winter season.

" 3d. Vessels in this port are subject to be injured by ice in hard winters, if they lay in the channel. To deepen the bar sufficient to receive vessels inside the rock, to keep them clear of ice, would cost a considerable sum, and be an annual expense to keep it sufficiently deep.

" 4th. The harbour is very open, and exposed all below Winthrop's Point.

" 5th. An enemy, with the wind at east or west, has a leading wind up to Winthrop's Point and down, which is a great advantage in the attack by water of any place.

" 6th. The rise of the tide being only three feet.

" 7th. The commanding heights to the westward of Fort Trumbull.

" 8th. The probability of worms."

"REMARKS AT NEWPORT."

"*Advantages.*—1st. Accessible at all times, especially when the wind is at north-west; which is the prevailing wind in the winter season.

" 2d. A good channel, depth of water, still tide, and a spacious harbour, well land-locked, sufficient for the largest navy in the world; a good anchorage above the Dumplin Rocks,

which is the proper place for ships to lay in; in fact, it is the best harbour for our navy I have seen.

" 3d. Goat-Island, a suitable place for docks, and belonging to the United States, well secured from storms by its situation; and the most suitable place for a dock is the west side of the wharf.

" 4th. Plenty of good materials for the docks.

" 5th. A good dock for docking of timber.

" 6th. Great advantage of being quick at or from sea, which may be in three hours.

" 7th. The number of vessels belonging and bound east and west of this port, frequently make it, and wait for a wind to waft them to their respective ports. This was the case while I was at this port, and is the most decided proof in favour of it.

" It appears, from the best information I could obtain, that the east end of Long-Island is a desirable part of the continent to make coming on this coast, and is the land most generally made, and that it is an object that commands the attention of all seamen returning to any port east of the Delaware. From the land so made, a north-west wind is a fair wind into this port; but unfair for any other, neither can they make any.

" *Disadvantages.*—1st. The great expense to fortify this place, which may be estimated at more than one million of dollars.

" 2d. The small rise of tide.

" 3d. The probability of worms.

" 4th. The difficulty of anchoring below the Dumplin Rocks, the water being deep and the bottom rocky."

" REMARKS AT BOSTON AND CHARLESTOWN.

" *Advantages.*—1st. The outer harbour of President and Nantasket Roads is large, and considered as a safe harbour for large fleets from the weather, when they are safe in and anchored.

" 2d. Quick at sea from this place.

" 3d. The inner harbour is very safe from the winds, freshes, and an enemy, and can be securely fortified at an easy expense.

" 4th. Boston and Charlestown, both being situated on necks of land, can be securely fortified, and without very great expense.

" 5th. The number of tradesmen within its vicinity, that may be commanded at all times in fitting and building ships of war.

" 6th. The number of seamen that resort to the port of Boston, which will always forward an expeditious equipment.

" 7th. The rise of tide, as it respects dry docks, which may be stated at eleven feet.

" 8th. The great number of militia that may be collected at a short notice, in case of an invasion, more than at any other place.

" *Disadvantages.*—1st. The great fog that this coast is frequently subject to.

" 2d. The great number of shoals that are in, and off the great bay, and the number of currents, which no experience can guard against.

" 3d. The difficulty of entering the harbour with the wind at north-west, which is ahead.

" 4th. The easterly winds, though fair for running in, are mostly attended with thick hazy weather, and the navigation of the bay being difficult, vessels are frequently compelled to stand out to sea.

" Mr. M'Lellan, an old, experienced commander on the coast, and a respectable citizen of Portland, states, that at, and all to the eastward of Cape-Cod, the coast is subject to great fogs, which sometimes continue for fifteen days. It is also stated, in a chart of George's Bank, by Paul Pinkham, that it is the most dangerous coast within the limits of the United States, and which he fears has been fatal to many.

" 5th. That a French seventy-four gun ship was absolutely lost in going out of the harbour during the revolutionary war, and a British seventy-four gun ship at Cape-Cod.

" 6th. The harbour opposite the town of Boston is not sufficiently large to contain a large fleet; the channel being very narrow, so much so, that there was but just room for the Constitution to swing clear of the ground at low water; in consequence of which Capt. Nicholson thought it most prudent to drop the ship down to President Road (which is just below the castle) to take in his stores.

" 7th. The anchorage is bad, from the bottom being very hard above Castle-Island, so much so, that Capt. Nicholson also states, he was drove up and down the harbour by the ice, with two anchors ahead, which would not hold: this happened some time since, though I suppose the ice cannot be so troublesome since the bridges were built.

" 8th. It is notorious that many vessels put into the Vineyard and Newport, and there wait a wind for Boston, which passage is considered as very dangerous. The difficulty of entering Nantasket Roads will be increased in crippled ships.

" 9th. It is stated that more vessels are lost in and near Boston Bay, than all the other parts of the coasts of the United States.

" 10th. The fall of the tide, as it respects shoals in the port or bay, as vessels may be affected by getting aground on hard bottom.

" 11th. To establish a navy-yard at Boston, the expense would be at least 48,000 dollars for the ground, and the place too much confined, and very liable to be affected by fire; not only that, but you must lay your vessel in a northerly direction, subject to the cold northerly winds.

" 12th. Noddle's Island presents a westerly and north-westerly exposure, which is a very cold one, and the ground uneven. The most suitable piece of ground on this island, for a dock or navy yard, is said, by the tenant, to contain about 77 acres, upland and marsh. The owner demands 25,000 dollars for it.

" 13. At Charlestown and Noddle's Island there are long flats.

" 14th. Charlestown is the most suitable spot in the port of Boston for a building yard."

" REMARKS AT PORTSMOUTH.

" *Advantages.*—1st. This harbour can be fortified at a small expense.

" 2d. Quick at and from sea, being but a short distance.

" 3d. Furnell's Island, belonging to Mr. Dennet, supposed to contain forty-five acres (price 6,000 dollars), is the best and most suitable place for a dock or building yard, of any other in Portsmouth harbour, and although this island is further from Portsmouth than Langdon's Island, yet it is equally near to Kittery's, where all the carpenters reside.

" The most suitable spot on this island for a dock is in a cove in the west part of the island; and for a building yard, nearly south of Dennet's house. Neither the dock nor slip will require above 200 feet from the shore, to a sufficient depth of water, and both may have a south direction, which is a very desirable one.

" 4th. There is on this island a sufficient quantity of stone for any building that may be thought necessary to be erected for the use of the navy-yard, and also a suitable place for docking of timber.

" 5th. The place pointed out on Dennet's Island for dock or yard is much more sheltered from the cold north and north-west wind, than that on the island of John Langdon, Esq. and is much cheaper.

" *Disadvantages.*—1st. The want of a capacious harbour.

" 2d. The rapidity of the current.

" 3d. This coast subject to fogs.

" 4th. Hard stony bottom.

" 5th. Very dangerous for vessels to pass the narrows, except at slack water."

"REMARKS AT PORTLAND."

- "*Advantages.*—1st. This port is within five miles of the light-house, which facilitates the entry into, or leaving it.
 " 2d. Sufficient depth of water up to the town.
 " 3d. Safe place for a dock, free from all winds.
 " 4th. A south front, good water at a short distance from the bank, which is very high: great quantity of filling may be had from the bank; in short, a dock can be made on reasonable terms. The spot would be a desirable one if the navigation of the river and basin were equally as good.
 " 5th. Good place for docking of timber.
 " 6th. Portland can be well defended by land, having a small neck of land to pass to the town.
 " *Disadvantages.*—1st. The harbour is not sufficiently large.
 " 2d. Large flats on each side of the river.
 " 3d. Narrow channel from the first bend up to the place suitable for a dock-yard.
 " 4th. Subject to ice.
 " 5th. High and uneven ground at the most suitable spot for a dock.
 " 6th. Difficulty in fortifying the river and basin where the ships must lay.
 " 7th. Its great distance from the centre of the union.
 " 8th. The coast subject to fogs.
 " 9th. Price of the land, which is rated at four hundred dollars per acre."

"REMARKS AT WISCASSET."

- "*Advantages.*—1st. Sheepcot River is deep, bold and safe, from Cross River to the town of Wiscasset, having from six to twenty fathoms water: no shoals in that distance that vessels of any size can ground on.
 " 2d. The harbour inside the river is from five to nine fathoms, where large vessels may lay safe from storms, worms, or an enemy.
 " 3d. This port embraces a good harbour, free from storms, where a large fleet may ride in safety. In Task's Cove, fifty sail of the line may lay, within one hundred and fifty feet of the shore, in six fathoms water, without being affected by any current whatever. This river can, with a very small sum (compared with other places), be safely fortified, possessing very commanding ground and situations for that purpose, and not more than from one half to three fourths of a mile wide.
 " 4th. Birch Point, belonging to the Hon. Silas Lee, contains about fifty acres of land, with a fine cove on each side for docking timber: the one on the south-west side is now made up for a mill-dam, to turn a saw and grist-mill, which

are erected thereon. This point of land is almost closed in by the two coves, which nearly meet on the west part, and make the passage very narrow, which is a very great convenience.

" The bank is about twelve feet above the tide; the land is not very uneven; several docks may be built on Mr. Lee's ground, on the aforementioned point; sufficient depth of water at a convenient distance.

" 5th. Sufficiency of good stone for docks.

" *Disadvantages.*—1st. The fogs that are frequent on this coast.

" 2d. The great distance from the centre of the union.

" 3d. The difficulty of procuring artificers, seamen, &c.

" 4th. The price demanded by Mr. Lee for his land and mills, being twelve thousand dollars.

" Having compared and considered the advantages and disadvantages of situation, with capacity of harbour, depth of water, rise of tide, expense in building docks, prices of land, facility of navigation, and capability of defence, previously stated at each port, I am decidedly of opinion, that Newport (Rhode-Island) is by far the most suitable port for the establishment of dry docks, and great naval port for our navy, for the ease and safety of entry at all seasons of the year. Its eligibility in preference to any other eastern port is universally acknowledged.

" The principal and only objection is the great expense of fortification, which may amount to more than a million of dollars.

" Boston harbour has been preferred by some; but experience has shown, that, during the late revolutionary war, a French and an English seventy-four gun ship were both lost in Boston Bay, which are evident marks of its dangerous coasts and harbours. Neither money nor art can ever alter the winds, dispel the fogs, and remove the currents or shoals which are attached to Nantasket road and coast. The amount of loss on those two ships would, I suppose, pay from one half to two thirds of the cost of fortifying Newport. Upon comparative accidents which have happened, and the causes still existing, it is fair to calculate upon what may take place in future. I am justified in this conclusion by the mode pursued by the underwriters, who calculate their premiums by the experience they have gained from what has passed; from which it is prudent and justifiable to calculate a continual loss, equal to the cases stated, and in an increased proportion as our navy becomes more numerous.

" How different is Boston port compared with that of Rhode-Island, where you have no reason to calculate a single loss in a century!

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" How different is Boston port compared with that of Rhode-Island, where you have no reason to calculate a single loss in a century!

"During the late war, the enemy, by taking possession of Rhode-Island, cut off the communication, in part, between the Eastern and Middle States. To guard against this in future, it may be doubted whether the navy and dock-yards will call for any important additional expense for fortification, further than for general defence, as there is no situation within the United States more convenient to favour the depredations of an enemy than Rhode-Island, nor from which our trade would be more liable to destruction from the excursions of their cruisers."

"The united interests of the States render this one of the most important ports for the attention of government."

"I cannot close this report without stating the propriety of fortifying the most suitable places for the protection of Gardner's Bay, to prevent an enemy from taking possession of it."

The remainder of these Reports is occupied in various details; such as the soundings, distances, and courses, in sailing in and out of the several harbours enumerated.

ART. VIII. *Practical Observations on Vaccination; or Inoculation for the Cow-Pock.* By John Redman Coxe, M. D. Member of the American Philosophical Society, and one of the Physicians to the Pennsylvania Hospital. Embellished with a coloured Engraving, representing a comparative View of the various Stages of the Vaccine and Small-Pox. 8vo. pp. 152. Philadelphia. J. Humphreys. 1802.

AMONG the numerous memorable events which distinguish the close of the eighteenth century, there are few which can be considered as more important than the discovery that the *Vaccine Disease*, or *Cow-Pock*, defends the human constitution effectually and permanently against the *Small-Pox*. Though some knowledge of the former disease had existed in Europe, and particularly in Great-Britain, many years before; yet the first regular and particular annunciation to the public, by a physician, of the discoveries which had been made respecting it, was in 1798, by Dr. JENNER, then residing in Gloucestershire, in England, and who has since removed to London. Dr. Jenner first ascertained and communicated to the world the efficacy of this disease, when propagated from one human subject to another, by inoculation, and ascertained many of the principles which ought to regulate this inoculation. The inquiry on this subject has, since that time, been pursued, and still further discoveries made, not only

by Dr. Jenner, but also by Dr. PEARSON, Dr. WOODVILLE, and Mr. RING, of London, as well as several others of Great-Britain and Ireland.

The extreme mildness of the vaccine disease; its requiring no cessation from labour, or attention to regimen; its being incommunicable excepting by inoculation; and the perfect defence which it affords to the constitution against a more troublesome and dangerous disease, the small-pox, are among the numerous advantages which it claims. The reality of these advantages has been so perfectly established by many thousand experiments, and by the most enlightened, judicious, and vigilant physicians, that there seems no longer any room for doubt respecting them; and indeed among the better informed parts of the community, there appears to be no doubt at present remaining.

To Dr. WATERHOUSE, of Massachusetts, the honour of introducing the inoculation of the vaccine disease into the United States is due. It is believed also that the first publication on this disease, made in America, came from the same gentleman. His exertions have been seconded by those of many other physicians in our country. But by far the most extensive and minute work on the subject, which has hitherto issued from an American press, is that of Dr. COXE, now under consideration.

Dr. C. appears to be well acquainted with the history of the vaccine disease, and with the leading facts and principles which should regulate the inoculation of it. He traces the regular concourse and succession of symptoms, from the commencement to the termination of its progress, noting, at the same time, such anomalies as have been most frequently observed to occur. He delivers the result of the most enlightened experiments with respect to the most eligible period of the disease for taking matter for the purpose of inoculation, and the best means of preserving the matter so taken. He then proceeds to give a summary view of the evidence which has been adduced to show the power of the cow-pock to defend the constitution against the small-pox. After these discussions, he considers the cases of *spurious* cow-pock, which have so frequently been employed in the disparagement of the Jennerian discovery; the effects of vaccination on the human constitution; and the comparative merits of the vaccine and small-pox; from which he makes a striking and forcible deduction of the preference due to the former.

On the question, How late in the disease is it best to take the matter for the purpose of inoculation? Dr. C. makes the following remarks:

"I believe the testimony of most Practitioners is in favour of obtaining the matter as early as possible to insure success, as it is then supposed to be in its most active state. At what point we must stop, seems as yet to be undetermined. Dr. Odier, of Geneva, has considered it as most proper to be taken when the efflorescence is complete; whilst the illustrious author of this important discovery considers this efflorescence as a 'sacred boundary, beyond which the lancet should not pass.' Again, Dr. Cappe, and others, consider the matter as proper for Vaccination as long as it continues limpid; and by others we are recommended to take the matter on the eighth day, or eight times twenty-four hours from the period of Vaccination. I have, as above mentioned, taken matter, in a case of the most perfect appearance and regularity, on the fifteenth day, when the areola had *nearly declined*; this I have done in several instances; from one I took it on the twelfth day, when the areola extended perhaps full three inches from the pustule, which was beginning to decline. (Case 22.) These may suffice to show its safety, where the matter continues limpid, and the scab has not too far advanced. Dr. Cappe says, Dr. Woodville informed him 'he had twice inoculated on the thirteenth day from patients, in whom the disease was so far advanced, that he could only obtain a little moisture from the margin of the scab; yet he was successful.'

"Were we to consider the presence of the areola as the point beyond which we should never infringe, we should in frequent instances be unable to decide: How are we to judge when this 'sacred boundary' does not exist; or how can we properly estimate its appearance in the dark skin of an African? As a general rule, I think it may properly be retained; but we shall all, probably, in our practice, find exceptions to it. I should rather be disposed to adopt, as a rule in taking the matter, that idea which restricts it to the eighth day. I speak of those cases which advance with due regularity; because this day embraces usually the most tardy and most rapid cases. It will also for the most part be in unison with the former; but to this we shall likewise find exceptions, as the areola sometimes commences on the fifth, sixth, and seventh days. Although I would prefer taking matter at an early period of the disease; yet my opinion, formed from the few experiments I have made on this point, leads me to conjecture, that when the pustule has exhibited the character of the real

Vaccine, no danger is to be apprehended from using the matter, even although the areola be formed, provided the fluid continues limpid, and the scab has not too far advanced: I should never hesitate to employ such matter, especially if none other offered."

With respect to the best means of preserving and transmitting the vaccine virus, Dr. C. offers the following observations:

"As the preservation of this matter is of the highest importance to mankind, it is incumbent on every Physician to pay the strictest attention to this point, more especially those who live in the country, where a failure might be with difficulty supplied. Disappointments will often occur, even when every precaution is taken to insure success. Matter will frequently fail, though employed immediately after being taken from a pustule, at the earliest period. This I apprehend must depend in a great measure on an indisposition to receive the impression of the disease. We see the same in the Small-pox; and the same diversity exists in different persons, and in the same person at different times, with respect to the application of medicines.

"The method I have employed to preserve the infection has chiefly been on thread and glass. I have taken it on thread mostly for the purpose of sending to Practitioners at a distance from the city. I have generally enclosed the thread in a piece of paper, and surrounded it with gold-beater's skin, so as to transmit it readily in a letter by the post; or I have thrust the paper into a quill, and after stopping it with a cork, have surrounded this with gold-beater's skin. In a few instances I have sent the matter on a piece of glass, which I have fitted with a piece of talc or isinglass, and coated with gold-beater's skin; and again I have put the impregnated thread between two plates of isinglass, and coated it as before. All these several ways have, I believe, succeeded.

"For my own use, I preserve it between two plates of glass which I coat as above; and I have always taken the precaution to note down on a piece of paper with which I surround them, the name of the patient, together with the day of the disease, and that of the month; by which means I am able to trace up the disease to its primary source. I have never omitted, when it was in my power, to procure the first portion of matter, and thus secure it for my future use; after which, I have procured it for others.

"An ingenious mode, which is pursued by a Practitioner of this city, is by applying to the punctured pustule, a capillary tube; by exhausting the air with his lips, the fluid which ex-

udes is forced up into the tube. This is then stopt with wax, or some other substance. To vaccinate with this, after making one or more punctures on the arm, the end of the tube is applied, and a fine wire pushed down, which carries the limpid infection before it, and deposits it on the punctured part. By this mode of preservation, evaporation is entirely prevented, and the infection continues fluid. How long this may be the case I know not. I apprehend, however, some danger is incurred of the putrefactive process commencing in the tube, in consequence of the atmospheric air contained. This, though small in quantity, is large in comparison to the portion of infection which has been drawn up. I know of no mode by which a vacuum is to be maintained there."

In answer to the very important question, How soon those who have been inoculated with the vaccine virus may consider themselves secure against the poison of small-pox, Dr. C. delivers the following opinion:

"A very important caution remains yet to be pointed out, viz. that the vaccine is by no means to be considered as an absolute preservative against the small-pox, unless the system has been completely guarded by it, previously to inoculation, or exposure to the natural contagion. This cannot perhaps be the case before the ninth or tenth days. If a person be inoculated in one arm for the small-pox, and in the other for the vaccine at the same time, he has surely no right to expect the extinction or even suspension of the one by the action of the other. Both at this period exert an equal sway on the system, for neither have a prior claim: and hence, in all probability, both diseases will run their course together; though, from the accounts of authors, and from several cases which have come under my care, I am induced to believe the vaccine prevents the small-pox at this early period; and that when it is not prevented, its symptoms are for the most part moderated."

The following comparative view of the vaccine and small-pox will, perhaps, gratify some of our readers:

"Small-pox."

"First. This disease is in the highest degree contagious: hence those who never have had it, cannot without extreme hazard, mix with such as labour under it.

"Second. The eruptive fever of the small-pox is not unfrequently attended by convulsions of the most alarming na-

"Vaccine."

"As this disease is not contagious, the separation of the well from those who are under its influence is entirely needless.

"None of these dire effects are to be dreaded in the mild process of vaccination.

"Small-pox."

ture, the effects of which are often felt through life. This is even often the case when the subsequent eruption is comparatively small.

"Third. The numerous pustules produced by this disease, in many instances in opposition to every attention, whilst they exhibit by their temporary presence, a sight of the most horrid kind, are not less to be dreaded from their frequent disfigurement of their unfortunate victim, by the pits they leave behind.

"Fourth. That attention to diet and to medicine, which is often necessary in guarding against the violence of this terrible disorder, is a frequent source of evil, as hundreds of mothers can testify.

"Fifth. The season must be attended to in inoculating for the small-pox; as well as the age and present condition of the system; hence pregnancy and teething are invincible barriers against inoculation.

"Sixth. The frequent, and often long continued nursing; the extreme anxiety which all parents must feel, although every precaution be made use of, because the issue of the disease is at all events precarious, must forcibly contrast the two diseases.

"Seventh. The small-pox, it is agreed, often calls into existence the dormant germs of disease, or so alters the constitution of the patient, that it more readily receives such impressions, as dispose to various

"Vaccine."

"An eruption in this disease is so rare an occurrence as never to be expected: And where it does exist, the number is so small, as to render it of little moment.

"There seems to be scarcely an instance in which either regimen or physic would be requisite in the vaccine.

"One season is scarcely preferable to another in this mild disease: Age and existing circumstances are of little moment; hence teething and pregnancy are no objections to its use.

"Nursing, anxiety and death are almost equally strangers to the vaccine. Death, we may confidently affirm, has *never* employed the vaccine as a besom of destruction.

"As much as we know of the vaccine, we find it efficacious in frequently removing many formidable complaints, and in benefiting a weakly constitution.

"Small-pox."

diseases, as scrofula, white swellings, consumption, ophthalmia, blindness, and many more.

"Vaccine."

"The comparison might probably be considerably extended: enough is said, however, to show the vast superiority of the vaccine over variolous inoculation."

We shall present to the reader but one more extract from this work. Dr. C. thus urges the adoption of this mild and effectual substitute for the small-pox.

"These strong and demonstrable truths must, I think, carry conviction to every mind, that great indeed is the moral obligation of Parents and Physicians, to save this immense population to the world, by the general introduction of the vaccine; a disease which, most assuredly, has never *of itself* proved fatal to a single person. What must be the feelings of a parent, who, with these facts before him (not founded on the assertion of an individual, but confirmed by the testimony of thousands of witnesses, the most respectable for their talents and situation); what I ask must be his feelings, when he sees a beloved infant writhing under the tortures of this foe to mankind, without having even given him a chance to escape by shielding him with this 'egis of Jenner?'" If a parent's feelings can thus be wounded by self conviction, how much more intensely should that Physician suffer, who, duly impressed with the certainty of the preserving influence of the vaccine, should lose a patient by inoculation! For my own part, I freely own, that with my present views on this subject, I should feel myself accessory to the death of the patient; and nothing but inability to procure the vaccine infection, would ever now induce me to recur to variolous infection, *antecedent* to vaccination, in which case I should regard it as the less of two evils.

"It appears to me most extraordinary, that every parent does not anxiously seize the opportunity of giving their helpless offspring a chance to escape the ravages of the small-pox. The simple act of substituting the minutest speck of vaccine or variolous infection, may prove the means of future happiness, or a source of bitter reflection, and too late repentance. If beauty in a female is desirable in the eyes of a parent, how much reflection is necessary before those pleasing prospects are blighted by the small-pox! Even were it proved the vaccine was not the preservative it is, what ill is to be apprehended from a disease, so slight as to exceed the range of possibility, to suppose, that death could be induced by it?

"How eccentric is the conduct of mankind! With testimony in favour of the vaccine ten thousand times stronger than would be required by the most prejudiced person, to convict an individual in a court of justice, is it not surprising the slightest objection can be advanced against it? Can we be surprised at the disbelief evinced by many in the holy scriptures, though so strongly attested, when we see this propensity to scepticism so prevalent on a subject, the truth of which every one has it in his *immediate* power to verify, and which appears to stand on a foundation as strong as christianity itself?

"What shall we say of the conduct of those physicians, who, without any endeavour to investigate the truth of the doctrines advanced respecting the vaccine, arrogantly assume to themselves the privilege of denying its merits altogether, or else assume as a fact that its prophylactic properties do not exceed the limits of a few years? Such physicians there are, (if they deserve the title) and not many miles from this metropolis, who thus strive to check the progress of this invaluable blessing. If they wilfully reject the firm basis on which it stands, they certainly deserve the detestation of mankind: if it arises from ignorance, we must pity the fate of such as trust their lives in the hands of those who will not take the trouble to render themselves acquainted with the facts they thus presume to oppose.

"That it is the interest of physicians to employ this in preference to the small-pox, will, I hope, be rendered evident when I come to consider the difficulty of procuring and preserving the infection. On those two points I rest the argument; because I am well satisfied none but physicians will take the necessary trouble to effect these ends, or with but few exceptions. Those who are objects of charity must still continue such, whether the vaccine or the small-pox are employed; and those who can afford to recompence a physician for his labour, will scarcely take the disease into their own hands, merely to save a trifling expense."

Dr. C. has thrown into an *appendix* several extracts of *letters* on the subject of the vaccine inoculation, which he received from physicians in different parts of the United States; a set of *tables*, exhibiting some of the first cases of the disease which came under his observation; and various remarks which occurred to him after the body of the work had been completed.

This publication will probably be found to comprise the greater part, if not all the facts and principles necessary to be known concerning this mild and inestimable substitute for a troublesome, and, in many cases, most ferocious and destruc-

tive disease. Dr. Coxe is certainly entitled to great honour for his exertions and zeal to promote its general adoption; and we cannot help expressing an earnest wish that his exertions, in union with those of other enlightened physicians, who have engaged in the same cause, may prove completely successful.

ART. IX. *A Farewell Sermon, delivered Sept. 26, 1802, in the North Dutch Church, Albany. By John B. Johnson, one of the Ministers of the Reformed Dutch Church in the said City. 8vo. pp. 96. Albany. Webster. 1802.*

THE Rev. Mr. Johnson had been settled for a number of years as pastor of the Reformed Dutch Church in the city of Albany, when the state of his health rendered it expedient for him to remove to a more southern situation. On taking leave of the people of his charge, he delivered the sermon which is now under consideration. The whole, indeed, of what is here laid before the public was not actually pronounced from the pulpit; but as an excellent opportunity, in the opinion of the preacher, was afforded by the publication, to disseminate truths and sentiments which he considered as of primary importance, he did not hesitate to introduce them into his work. Though this measure extended the sermon greatly beyond the ordinary limits, yet those who agree with him in his religious opinions will, no doubt, grant that its value is also thereby greatly increased.

The passage of scripture which Mr. J. employs as a text is 2 Cor. xiii. 14. *The grace of the Lord Jesus Christ, and the love of God, and the communion of the Holy Ghost, be with you all.* After a few sentences of introduction, he proceeds to explain the meaning and connection of the several parts of this passage, which is, in general, well done. This, however, employs but a small part of the discourse. The great body of it consists of the addresses, instructions, and benedictions which the preacher thought proper to apply to the occasion on which it was delivered.

Mr. J. appears warmly attached to those doctrines which are contained in the Standards of the Reformed Dutch Church, and takes every opportunity of inculcating and defending them. The discourse breathes throughout a spirit of piety, of attachment to the people of his charge, and of a benevolent regard to the best interest of men.

How far it was proper to introduce into a pulpit address some of the things which are found in this sermon, can only

be decided by those who possess a full knowledge of the character and circumstances of the people to whom it was delivered. We take for granted that a gentleman of so much taste and judgment as Mr. J. appears to possess, carefully attended to this question, and satisfied himself of the propriety of the course which he pursued.

Viewing this sermon as a literary production, it has considerable merit. Mr. J. writes generally in a smooth and agreeable, frequently in a striking manner, and sometimes eloquently. But we cannot help thinking that he has spread his ideas over too large a surface; and that the same matter, condensed into a less compass, would have been more impressive and more profitable. His style is, in many instances, enfeebled by its diffuseness.

The following paragraph is a favourable specimen of Mr. J.'s manner.

"If I could not, dear friends, utter this benediction, upon similar grounds with Paul and the rest of the Apostles, I would not have dared to take the sacred words in my lips, much less to discourse from them on this solemn occasion. But may I not call these walls to witness; may I not appeal to your own consciences; Great Judge of all! may I not appeal to thee, whether I have not preached to this people the peculiar and distinguished doctrines of the cross? *I call heaven and earth to record this day against you, that I have set before you life and death, the blessing and the curse.* I have showed you your danger and your remedy. I have preached a free salvation; to the participation of which great sins are no obstacles; since *the blood of Christ cleanseth from all sin; and he came to save even the CHIEF OF SINNERS.* I have told you that the aggravated condemnation of persons under the gospel is the consequence of their unbelief; that those who have not faith, whatever other good qualities they may possess, continue under the wrath of God; that this great and dreadful evil is removed when faith is exercised; and that we are totally unable to save ourselves by producing faith in our own hearts. When, to humble your pride, with which you can never enter into heaven, I have demonstrated the moral impotency of your nature; I have exhorted you to throw yourselves upon the arms of Jesus; and have endeavoured to encourage you to that necessary act, with his own most gracious words; *come unto me, all ye that labour and are heavy laden, and I will give you rest. Whosoever cometh unto me, I will in no wise cast out.* And while I have vindicated the grace of God, showing that the whole meritorious cause of a sinner's justification is entirely in Christ, and results from

his perfect righteousness; that is, his active and passive obedience; or, his holy life, and atoning death; yet I have strenuously advocated personal sanctity, and good works. These I have advocated upon gospel principles; not that they might be your saviours, and usurp the place of Christ; but because they are the native and necessary fruits of a true and living faith; because *all who are in Christ Jesus are new creatures*; and because he is *made of God unto us*, in a connection that cannot be broken, *wisdom, and righteousness, and SANCTIFICATION, and redemption*. I have endeavoured to give you enlarged ideas of good works, as embracing all the duties of piety to God, and of justice to man; and have condemned as well the charity of him, who did not habitually call upon the name of the Lord, as the prayers of him who felt and exercised no charity; commending such examples as the pious Cornelius, who having obtained some knowledge of the true God, worshipped him according to the light he had; and whose *prayers and alms* came up for a memorial before his throne. I have thus endeavoured to raise the beautiful fabric of christian morality upon the firm and broad basis of christianity. All this I have done with great imperfection I confess; but with plainness, with earnestness, with faithfulness. For the truth of these declarations I confidently appeal to you, my dear friends, who have heard me, as I shall appeal to you at a more solemn meeting; and I know your conciences must now bear me record; and I trust *the faithful and true witness will testify in that day that I am free from the blood of all men.*"

We presume this sermon will be perused with pleasure by serious persons, especially by those of the communion to which the author belongs. The affectionate sensibility which he frequently discovers, will conciliate the esteem and respect of every reader.

ART. X. Memoir on the Supply and Application of the Blow-Pipe. Containing an Account of a new Method of supplying the Blow-Pipe either with Common Air or Oxygen Gas; and also of the Effects of the intense Heat produced by the Combustion of the Hydrogen and Oxygen Gases. Illustrated by Engravings. Published by Order of the Chemical Society of Philadelphia; to whom it was presented, by Robert Hare, jun. Corresponding Member of the Society. 8vo. pp. 34. Philadelphia. Maxwell. 1802.

THE great utility of the *blow-pipe*, and the important purposes to which it may be applied, are well known to the artist and the chemist. By enabling the artist to bring an in-

tense heat to bear on a single point, this instrument has been found of great advantage in enamelling, soldering, and in all the more delicate operations of the worker in gold, silver, &c.

The strong effect produced by *flame blown* by this *pipe* on metallic substances, rendered it also a convenient and cheap instrument in chemical experiments.

Some of the disadvantages attending the use of the blow-pipe in the ordinary way, and which his invention is intended to obviate, are thus mentioned by Mr. Hare.

"The most general method, is that of supplying this instrument with the breath. In addition to this well known difficulty of keeping up a constant emission of air during respiration, and its injurious effect on the lungs, it may be remarked, that as the breath is deprived of part of its pure air, is mixed with carbonic acid gas, and loaded with moisture, it is not the most fit for combustion; and the obvious impossibility of supporting a flame with oxygen gas, by this method, is also worthy of consideration.

"Another way of supplying the Blow-Pipe with air is that of affixing to it a small pair of double bellows. A contrivance of this kind possesses obvious advantages over the mouth blow-pipe; but, owing to the pervious nature of the materials of which bellows are constructed, and the difficulty of making their valves air tight, upwards of nine-tenths of the air drawn into them escapes at other places than the proper aperture. A pair of bellows of this kind, belonging to an artist of this city, which were considered as unusually air tight, were found to discharge the complement of their upper compartment, in six-fourths of a minute when the orifice of the pipe was open, and in seven-fourths of a minute when it was closed. Hence it appears, that six-sevenths of the air injected into the upper compartment, escaped at other places than the proper aperture; and if to this loss were added that sustained by the lower compartment, the waste would be found much greater. As in operating with these machines, it is necessary constantly to move the foot, the operator cannot leave his seat; and in nice operations, the motion of his body is an inconvenience, if not a source of failure. Bellows of this kind cannot be used for supplying combustion with oxygen gas; because, as this air is only to be obtained by a chemical process, the smallest waste of it is of serious consequence; and as there is always a portion of air remaining in them, even when the boards are pressed as near to each other as the folding of the leather will permit, any small quantity of oxygen gas which might be drawn into them, would be thereby contaminated.

"It seems, that the only instrument hitherto used, for the supply of combustion with oxygen gas, is the gazometer of the celebrated Lavoisier: but this machine, although admirably calculated for the purposes of that great philosopher, is too unwieldy and expensive for ordinary uses.

"Being sensible of the advantage which would result from the invention of a more perfect method of supplying the blow-pipe with pure or atmospheric air, I was induced to search for means of accomplishing this object. Having observed the cheapness, strength, and tightness of cooper's vessels, I became desirous of forming an apparatus for my purpose, by means of hydrostatic pressure, exerted within them. I soon found, that this could not be effected conveniently, without the use of leather. Obliged to resort for assistance to this material, I endeavoured to apply it in such manner as to remedy the evils resulting from the use of it in the common kinds of bellows. The causes of these evils appeared to be, the opening of the pores and joints of these instruments, by dryness, and the tension to which they are so frequently subjected. I therefore determined to subject the leather, which I should use, to moisture and compression. In this I succeeded, and derived the expected advantage from success."

Instead of using the mouth or foot, Mr. H. has contrived a machine which propels the air by the pressure of a column of water, and is denominated "the hydrostatic blow-pipe." The greater part of this memoir is employed in describing this machine and explaining its application. These explanations cannot be understood without a reference to the engraving which accompanies the memoir.

On the advantages of this hydrostatic blow-pipe, and the uses to which it may be applied, Mr. H. has the following remarks:

"Nothing can be more steady than the stream of air emitted by this instrument. The falling off in pressure, arising from the descent of the water, does not perceptibly affect the flame, in a blast of six minutes duration; and in the mean time, the handle may be depressed so gently, that the most strict observation will not discover the least unsteadiness to be produced by it. Or if the machine be filled with air, by opening the cock more or less, an equable blast may be supported for more than the space of an hour.

"The flame of the enamellers' lamp is not used exclusively for the purposes of the artist from whom it takes its name. It is this modification of the principle of the Blow-pipe, which is applied to the moulding of glass instruments. But in heating glass with this flame, an inconvenience arises from the im-

possibility of exposing both sides of any subject to the same heat, unless it be constantly turned round; for if only one side of a large glass tube be applied to the flame, the part exposed to its action will be fused before the other will be softened, and if it be turned round constantly, a much longer time will be required to melt it. Indeed, some large tubes of refractory glass, which are not to be melted while undergoing this rotary motion, may be readily fused in any spot constantly exposed to the action of the flames.

"The philosophical world has been for some time acquainted with the intense heat produced by combustion supported with oxygen gas. By means of the Hydrostatic Blow-Pipe every artist may, with little trouble and expense, avail himself of the intense heat produced by this combustion.

"Probably there are not at present many operations in the arts, which require greater heat than may be produced by the ordinary means; but it is certain, that the knowledge of a process cannot precede an acquaintance with the heat necessary to effect it; and this most intense fire being placed within the reach of the artist, it is highly probable that cases may be discovered, in which it may be applied with convenience and utility."

By means of this invention Mr. H. is enabled to employ the flame of the *hydrogen* and *oxygen* gases, and by an ingenious contrivance the difficulty of igniting a mixture of these aërial-form substances without explosion, has been surmounted.

He was led to this experiment by the following reasoning.

"In operating with the combustion of carbon and oxygen gas, great evils were observed to result, from the difficulty of placing the subject of the operation in the focus of the heat, without interrupting the stream of air by which this heat was supported. Not only was the focus widened by this interruption, and the intenseness of the heat thereby lessened; but the stream of an air oxydated those substances which were combustible, and cooled those which were otherwise, in the places where it impinged previously to its union with the charcoal. Added to this, the charcoal was so rapidly consumed, that the substance acted on became so much buried, that it was difficult to follow it with the eye, or the orifice of the pipe; and some substances were observed to run into the pores of the coal, and elude examination.

"To avoid these evils it was thought desirable, that means might be discovered, of clothing the upper surface of any body which might be subjected to this species of operation, with some burning matter, of which the heat might be equal to that of the incandescent carbon, with which the lower surface might

be in contact; or by which bodies might be exposed on solid supports to a temperature, equal or superior to that of the porous charcoal uniting with oxygen.

" It soon occurred, that these desiderata might be attained by means of flame supported by the hydrogen and oxygen gases; for it was conceived, that according to the admirable theory of the French chemists, more caloric ought to be extricated by this than by any other combustion.

" By the union of the bases of the hydrogen and oxygen gases, not only is all the caloric of the oxygen gas evolved; but also a much larger quantity, which must be necessary to give the particles of the hydrogen their superior power of repulsion. The product of this combustion is water in the state of steam, which retains heat so slightly, that it acts merely as a vehicle to deliver it to other bodies. What is necessary to preserve to water its form of fluidity, is the only portion of the caloric extricated in this combustion, which is permanently abstracted.

" The combustion of carbon with oxygen gas has been hitherto considered as the hottest of all fires. The caloric evolved in this case proceeds from the oxygen gas alone, while the product of this combustion is carbonic acid gas, which abstracts the large quantity of caloric necessary to give it the form of permanent air, but which adds nothing to the heat of the combustion. Hence it is evident, that more caloric is evolved, and less abstracted, in combustion supported by the hydrogen and oxygen gases, than in that supported by oxygen gas and carbon.

" However, the intenseness of the heat of combustion is not only dependant on the quantity of caloric extricated, but also on the comparative smallness of the time and space in which the extrication is accomplished. But in this respect the aëri-form combustible has obviously the advantage over those which are solid, as its fluid and elastic properties render it susceptible of being rapidly precipitated into the focus of combustion, and of the most speedy mixture with the oxydating principle when arrived there.

" The opinion of the intenseness of the heat produced by the hydrogen and oxygen gases, thus upheld by theory, derives additional support from the practical observation of the great heat of a flame supported by hydrogen gas while issuing from a pipe; and also of the violent explosion which takes place when it is mixed with oxygen gas and ignited; for it appears that this explosion can only be attributed to the combination of an immense quantity of caloric, with the water which is either held in solution by these gases, or formed by the union of their bases."

The changes produced on various substances of the most refractory nature by the flame of the hydrogen and oxygen gases are thus described.

"In order to avoid a tedious recurrence to an awkward phrase, I shall generally, in the subsequent part of this paper, distinguish the flame of the hydrogen and oxygen gases by the appellation of gaseous flame.

"By exposure to the gaseous flame, either on supports of silver, or of carbon; barytes, alumine, and silex, were completely fused.

"The products of the fusion of alumine and silex were substances very similar to each other, and much resembling white enamel.

"The result of the fusion of barytes was a substance of an ash coloured cast, which, after long exposure, sometimes exhibited brilliant yellow specks. If it be certain that barytes is an earth, these specks must have been discoloured particles of the silver support, or of the pipes from which the flame issued.

"Lime and magnesia are extremely difficult to fuse, not only because they are the most refractory substances in nature, but from the difficulty of preventing them from being blown on one side by the flame; nevertheless, in some instances, by exposure on carbon to the gaseous flame, small portions of these earths were converted into black vitreous masses. Possibly the black colour of these products of fusion may have been caused by iron contained in the coal; for in the high temperature of the gaseous flame, a powerful attraction is reciprocally exerted by iron and the earths.

"Platina was fused by exposure on carbon to the combustion of hydrogen gas and atmospheric air. But the fusion of this metal was rapidly accomplished by the gaseous flame, either when exposed to it on carbon, or upon metallic supports.

"A small quantity of this metal, in its native granular form, being strewed in a silver spoon, and passed under the gaseous flame, the track of the flame became marked by the conglutination of the metal: and when the heat was for some time continued on a small space, a lump of fused platina became immediately formed.

"About two penny-weights of the native grains of platina, when subjected to the gaseous flame on carbon, became quickly fused into an oblate spheroid as fluid as mercury. This spheroid, after being cooled, was exposed as before. It became fluid in less than the fourth of a minute.

"Had I sufficient confidence in my own judgment, I should declare, that gold, silver, and platina, were thrown into a state

of ebullition by exposure on carbon to the gaseous flame: for the pieces of charcoal on which they were exposed became washed or gilt with detached particles of metal, in the parts adjoining the spots, where the exposure took place. Some of the particles of the metal thus detached, exhibited symptoms of oxydation.

" As the fusion of lime and magnesia, by exposure on carbon, was accomplished with great difficulty and uncertainty, it became desirable, that means might be discovered of effecting this fusion with greater ease.

" By the union of the base of oxygen with iron the whole of the caloric of this elastic fluid is supposed to be extricated. This consideration, together with some practical remarks on the heat of burning iron, induced me to employ the combustion of this metal, in conjunction with that of the hydrogen and oxygen gases.

" Some pieces of iron wire, each of about half an inch in length, were quickly thrown into fusion and rapid combustion, by exposure on carbon to the gaseous flame. When either lime, magnesia, barytes, alumine, or silex, were thrown on the iron in this state, they became instantly melted and incorporated with the metal. It remains a question whether in this case the earths were fused or dissolved; and whether the substances which resulted from their union with the iron were mixtures or combinations. If they were combinations, according to the present nomenclature, they should be denominated *ferrurets*.

" The difficulty of igniting some substances which are only susceptible of combustion at very high degrees of heat, has hitherto excluded them from the laboratory. By means of the gaseous flame, such substances may be employed with the greatest facility, in small analytical operations.

" Of the nature of the substances above described are the carburets of iron, and some peculiar species of native coal.

" Among the carburets of iron, the English plumbago is esteemed the best. Some pieces of this substance, obtained from the best English black-lead pencils, were readily thrown into combustion by exposure to the gaseous flame, either on carbon, or on some larger pieces of American plumbago. It was found that either lime or magnesia were fusible when exposed to the fire thus produced. This, however, may have been caused by the iron contained in the carburet, for the fused earths and plumbago generally adhered to each other.

" There is a peculiar species of native coal found on the banks of the Lehigh, in this State, which it is extremely difficult to ignite; but, when exposed to an high degree of heat and copious blast of air, it burns, yielding an intense heat, without

either smoke or flame, and leaving little residue. By exposure to the gaseous flame on this coal both magnesia and lime exhibited strong symptoms of fusion. The former assumed a glazed and somewhat globular appearance. The latter became converted into a brownish semivitreous mass."

In the use of the phrase *gaseous flame*, Mr. H. appears to us to have attended more to a supposed convenience than to philosophical precision. Every thing like tautology or redundancy should be avoided in the language of science.

We have been pleased, in the perusal of this memoir, with the proofs of ingenuity and information displayed by the author; his machine well deserves the approbation bestowed upon it by the Chemical Society of Philadelphia, and, we doubt not, will engage the attention of all those whose pursuits require the use of such an instrument as the blow-pipe.

ART. XI. *A Brief History of the Mississippi Territory; to which is prefixed a Summary View of the Country between the Settlements on Cumberland River and the Territory.*

By James Hall, A. M. 8vo, pp. 70. Salisbury (N. C.)

Coupee. 1801.

THE author of this "brief history" was one of the Missionaries sent by the General Assembly of the Presbyterian Church, and the Synod of the Carolinas, into the Mississippi Territory; where he resided from December, 1800, to April, 1801.

The information collected, during his mission, concerning the history, climate, soil and productions of this district, Mr. Hall has here given to the public. Though, in respect to matter, arrangement or style, there is little to justify the dignified name of "history" bestowed upon this pamphlet, yet it contains many facts and desultory observations, that may gratify the curiosity of numerous readers, concerning a portion of the United States at present imperfectly known.

The Territory here described is usually stated to comprehend that part of the United States which is bounded north by Tennessee, west by the Mississippi, and south by the 31st degree of north latitude, and east by the proper boundary of Georgia. But we find, that by an act of Congress, April 9, 1798, all that tract of country only which is bounded on the west by the Mississippi, north by a line drawn due east from the mouth of the Yazoo to the Catahouchee river, east by the Catahouchee, and south by the 31st deg. of north latitude, was

formed in a district, by the name of the Mississippi Territory, and that in 1800 a government was established over it, similar to that exercised over the Territory north-west of the Ohio. The particular boundaries of the country purchased of the natives are given by Mr. H. This district is divided into three counties, named Washington, Adams, and Pickering, which, by the late census of the United States, contained about 9000 inhabitants.

The soil of this country is described by Mr. H. as very fertile; many trees, particularly the red-oak, grow to an enormous size; among the best trees are enumerated the cypress, cotton wood, sycamore, holly, magnolia, wild peach-tree, red oak, walnut, elm, ash, and ironwood.

The large quantity of cotton produced along the Mississippi, for several years past, is well known, and it bids fair to be a valuable staple. Of this, and other productions of this Territory, Mr. H. thus speaks.

"The soil is exceedingly fertile for Indian corn, tobacco, indigo, cotton, hemp and flax. It is also tolerably favourable for wheat, rye, oats and barley; but the grain of these is not so full and heavy as in more northern climes. The tobacco in that country is said to be the best in the union. Cotton is now the staple commodity in the Territory, and grows to great perfection. To the maturing of that, as well as other produce, the warmth and length of the season must contribute. The quantity of cotton in the seed, produced from one acre of land, is from 1000 to 2000 (some say 2500) pounds. About 1500 may be considered the average. Hence, from 130 acres of good land, a farmer will expect about 200,000 pounds, for which quantity many farmers were pitching their crops last spring. This will produce 50,000 pounds of clean cotton.

"Almost every farmer of considerable force has a horse-gin on his farm. These will take out of the seed from 700 to 1000 pounds of clean cotton in a day. To these gins the lower class of farmers carry their cotton, which is taken out for the tenth pound. A few gins are turned by water; but dams are so difficult to be kept up, that few risk the expense.

"Garden vegetables grow there in the greatest perfection. I ate ripe strawberries on the last week of March, which were cultivated in a garden, and green pease on the first week of April.

"It is expected the sugar-cane may be cultivated in the lower part of the Territory to advantage. A planter made an experiment last summer, fifteen miles above the boundary, which promised success in the cultivation of that article."

Mr. H. remarks that the Mississippi is gaining very fast on its eastern bank, particularly at the Natchez, where it is about 180 perches wide. On the opposite, or west side, there is a tract of low land near thirty miles broad, which is evidently a dereliction of the river, which has thus encroached on the eastern side. After passing the southern boundary of the United States, the river widens in its way to the sea.

Among the curiosities described by our author, the following is so remarkable that we shall extract his account of it.

"Another curiosity," says the author in p. 56, "which occurred to my view, was the *pigeon-roost* on a branch of Big Black, about 60 miles below the Chickasaw nation. The reader may call it natural or artificial as he pleases. An account of the phenomenon there exhibited carries with it such an air of the marvellous, that, had I been the only spectator, it would have been passed over in silence. The pigeons had taken their station in and about a place known by the name of the Hurricane Swamp. The greater part of the large timber had been blown down, and they had perched on the branches of the small timber that remained; and which being broken by them, now hung down like the inverted brush of a broom. Under each tree and sapling lay an astonishing quantity of their dung, of which, from the specimens we saw, there must have been not only hundreds, but thousands of waggon loads. Round each resting-place was an hillock raised a considerable height above the surface, although the substance had been there eighteen months when we made our observations on the place. At that time the heaps were, no doubt, greatly sunk. What bounds they occupied we could not ascertain, as the swamp was so full of brambles and fallen timber that we could not leave the road. It is near a mile diameter; and, as far as I can recollect, their traces were the chief part of the way, and about an hundred paces on the north side of the swamp."

To impress the reader with an idea of the astonishing number of these pigeons, Mr. H. relates, that a hickory tree, one foot in diameter, was bent down to the ground, and its roots started, by the weight of the birds that alighted on the top!

Ancient mounds of earth, remains of fortifications, and beds of shells, appear in different parts of this country, which may furnish food for the conjectures of the antiquarian, and the philosophical inquirer into the history of North-America.

In 1784, a pamphlet, entitled, "An Historical Narrative and Topographical Description of Louisiana, and West-Florida," which comprehended a great part of this territory, was published by Thomas Hutchins, Esq. Geographer to the United

States. To this pamphlet we refer our readers for many interesting particulars not to be found in the work before us, but which serves also to confirm the account given by Mr. Hall, of the climate, soil, rivers, and productions of this most delightful country.

The philanthropist must derive pleasure from the information that the natives in the Chickasaw Villages are making considerable progress in spinning, weaving, and agriculture, arts which mark the increase of civilization.

ART. XII. Notes and Observations on the Pine-Lands of Georgia; showing the Advantages they possess, particularly in the Culture of Cotton, &c. To which is added, a Geographical Sketch of the State of Georgia, with a Comparative View of the Population of 1791 and 1801, and the Exports of the Year 1791 and 1800. By George Sibbald, of Augusta. 8vo. pp. 71. Augusta. Bunce. 1801.

THE great object of this publication appears to be, to induce people from Europe and the northern parts of America to settle on the *pine lands* of Georgia, and to engage in the culture and manufacture of cotton, in which the writer frankly confesses himself interested; but, at the same time, asserts that this interest has never led him to swerve from the truth in the statements he has made.

We are told that the pine land "is generally sandy, or a mixture of sand and loam; and that wherever you find a clay foundation (which is generally the case) from eight to twenty inches below the surface, those lands are to be preferred, particularly for the culture of cotton;" and that these lands will also produce wheat, sweet potatoes, peaches, apples, cherries, pears, nectarines, plums, quinces, strawberries, raspberries, and grapes. Mr. S. dwells also on the facility of preparing tar, pitch, turpentine, and the excellence of the soil for grazing; and expatiates on the numerous advantages afforded by Georgia to the poor and industrious emigrant.

We are next presented with a plan of an association, comprised in seventeen articles, for the encouragement and promotion of the settlement of these lands. After a geographical view of Georgia, its latitude, longitude, boundaries, civil divisions, and population, the remainder of this pamphlet is chiefly occupied in the history of the State, from the first settlement, in 1733. The principal rivers and chief towns in the State are also described.

Of the university lately established we have the following account:

"At a meeting of the Senatus Academicus, at Louisville, on the 15th June, 1801, it was resolved that the State university should be fixed in Jackson county; and a committee, consisting of the Hon. George Walton and Abraham Baldwin, and Generals Twiggs and Stewart, were appointed to fix on the scite. These gentlemen, after viewing every situation which was supposed eligible, fixed on a height near the north fork of the Oconee River, commonly called the Cedar Shoals, which, in point of situation, is excelled by no part of the country. The hill is very high, has a fine commanding view of the surrounding country, and the north fork of the Oconee full in view; has a fine spring of water near the top of the hill, and experience has proved it to be remarkably healthy. The Hon. Mr. Milledge purchased the land for one thousand dollars, and presented it to the university. The committee then marked the spot where the buildings were to be erected, which they named *Athens*. The university is possessed of ample funds, and is under the direction of Josiah Meigs, Esq."

Mr. Meigs was the late professor of natural philosophy and astronomy at Yale College, in Connecticut.

Mr. S. little attentive to the language of science, is not very precise in his description of the natural products of the country. The following extracts will serve as a specimen.

"This State abounds with iron ore, particularly the pine woods. There are also black-lead mines, coal-mines, &c.

"Stone for building is to be found in every part of the upper country. In the neighbourhood of Augusta there are four kinds of free-stone, equal to any in the world. Mill-stones of the same species as the Cologne stones (but said to be of a superior quality), are made in many of the upper counties. Oil-stones, equal to the Turkey stone, are to be had in abundance. Within a few miles of Augusta there is a large bank of white clay or marle, now only used for white-washing. Seven miles from Augusta, red and yellow clay, used as paints, are to be had in abundance.

"The most remarkable curiosities are the ancient fortifications which are to be seen in many parts of the State; and the bank of petrified shells, which commences at Savannah River, 25 miles below Augusta, and runs through Burke, Jefferson, Warren and Washington counties, to the Oconee River. This bank of shells serves for various purposes. They make good lime for building; they make mill-stones superior to French burr; and afford the philosopher a rich variety of the frolics of nature, in petrifactions as various as they are rare.

"The forest trees are in the same variety as in the other States, with the addition of the live-oak. As this tree is daily falling under the axe of the cultivator, it would have been well for the United States to have secured some of the land. We have an exotic which seems, from its form, to have been intended for ship-timber; nothing would induce an opinion to the contrary but its quick growth. This tree is called the *Pride of India*, or vulgarly called China tree. Its form, its foliage and its flower, surpass in beauty all the trees of the forest. It makes handsome furniture, somewhat resembling the wood which is used in Cuba for ship building, called Spanish cedar, or Spanish mahogany. If these trees would answer the purposes of ship-timber (and I hope the experiment will be made), in ten years growth they would answer for timber for vessels of one hundred to one hundred and twenty tons.

"The pine of this State is of two species: one of them differs from the pine of the northern States; has a *long leaf*, and the wood is much more durable, and is superior for any use except for ships spars, for which purpose it will not answer, being too heavy: the other, called *short leaf*, is only found intermixed with oak and hickory. Those trees, the growth of the *land* which led to this publication, were the first subjects of oppression by an arbitrary act of the British Parliament, prohibiting the cutting down of *pine trees*, or what they called pitch and tar trees. This was the first act that was complained of by the colonists."

On the whole, this pamphlet, though imperfect and faulty in many respects, contains considerable information that may be useful and pleasing to the generality of readers. Should his design of settling and cultivating the pine barrens of Georgia be found as practicable and advantageous as this writer supposes, its success will add to the wealth and prosperity of the State.

ART. XIII. *A Discourse occasioned by the Death of the Rev. John Ewing, D. D. late Senior Pastor of the First Presbyterian Congregation of the City of Philadelphia, and Provost of the University of Pennsylvania. By John Blair Linn, A. M. Pastor of the said Congregation. 8vo. pp. 26. Philadelphia. Aitken. 1802.*

DR. EWING, for near half a century, held a distinguished place among the scientific ornaments of his country. Having been lately removed by death, some account of his talents, acquirements, and character was to have been expected

from Mr. Linn, his respectable colleague, who had been, for a considerable time, intimately acquainted with them, and connected in ministerial office and in affection with their venerable possessor. Accordingly this sermon is the tribute of respect which he has paid to the memory of his departed friend and co-pastor.

M. L. introduces his discourse to the public by the following advertisement:

"The following discourse was written under the pressure of ministerial duties. It was delivered on Sabbath evening, November 21st, 1802, in the first Presbyterian church in Market-street. It is now printed at the request of the session of the congregation with which the author is connected. Should some striking events which marked the life of the deceased, should some distinguishing traits in his character not be found in the delineation which these sheets contain, the writer will regret as sincerely as any one who observes the omission, that the materials with which he was furnished did not enable him to give a finished portrait and a fuller account. Need he declare in answer to any objection which may be offered, that the pen which wrote, and the tongue which pronounced this eulogium, were the instruments of an heart which glowed with love and admiration for his venerable colleague?"

The passage of scripture chosen by Mr. L. as the foundation of his discourse, is from Acts xx. 38. *Sorrowing most of all for the words which he spake, that they should see his face no more.* After a few just and well written sentences of introduction, the author proceeds to make some remarks on the part of sacred history from which the text is selected, and on the grounds of sorrow which the death of faithful ministers of Christ presents. Having very briefly considered these, he makes a transition to the principal object of his discourse, which was to exhibit the character of his departed colleague.

The following account of Dr. EWING, we extract almost entire, believing that the importance of the station which he filled, and the great, and, in this country, almost unequalled extent of his acquirements, will render it interesting to most readers.

"Dr. John Ewing was born on June 22d, 1732, in Nottingham, in Maryland, near the line which divides that State from Pennsylvania. He derived no possessions from his parents but their blessing and their good example. He received the first part of his education under Dr. Alison, a man eminent for piety, and erudition, who then resided at New-London

cross-roads, in the State of Delaware. After having finished those studies usually taught in his school, he remained with Dr. Alison three years as a tutor. During that time, by attention and industry, he made some progress in the science of mathematics, in which he afterwards became so eminent. Books of science at that time were not easily obtained in America, especially in places which were remote from cities: Such, however, was his thirst for knowledge, that he frequently rode thirty or forty miles to obtain some books which would afford information on the subjects of his favourite speculations. Those authors who were safe guides he could not always obtain; incorrect writings sometimes fell into his hands, the errors of which escaped not the detection of his original and penetrating observation. It is oftentimes the case that difficulties increase the avidity of the mind in its pursuits, and call into action that strength and those mental forces which might otherwise slumber and die. Such was the influence of difficulties on Dr. Ewing at this early period of his life. His was not one of those weak minds which immediately shrink from intellectual conflict; but his was one which gathered power from hindrance, and bade defiance to disadvantage. It may, perhaps, be said of him that he was in some measure self-taught in mathematics, and that his genius in that branch of erudition was extraordinary. From the school of Dr. Alison he removed (in the year 1754) to the college of New-Jersey: Mr. Burr was then President of the institution, and of that great and celebrated man, he was a favourite pupil. He entered the senior class, and, impelled by pecuniary embarrassments, engaged at the same time as teacher of the grammar school which was connected with the college.

"In addition to this circumstance he had, in order to prepare for his graduation, to study in private some branches, to which he had not attended before his entrance in college. From these causes his labour was greater than that of any of his classmates; his studies became arduous and multiplied. He however brought to the contest a mind which was undaunted, which persevered and overcame. He graduated with his class (in the year 1755) and afterwards accepted of an appointment as tutor in the college. During the prosecution of his scientifical studies, and while engaged in instructing others, he devoted part of his time to the investigation of divine truths: the relish which he had for these, the progress which he made in them, and the impression, which they left upon his mind, determined him, with divine permission, to become the minister of the everlasting gospel, to carry to other ears and to other hearts those glad tidings which had reached and impressed his own.

"In pursuance of this design he read divinity under the direction of Dr. Alison, and in due time was licensed to preach the gospel by the Presbytery of New-Castle. At the age of twenty-six, before he undertook the pastoral care of any congregation, he was employed as the instructor of the philosophical classes in the college of Philadelphia, during the absence of Dr. Smith, who was then the Provost. While he was engaged in the discharge of this honourable office, a call was proffered to him by the congregation of Nottingham, the place of his nativity; but a more extensive field of usefulness being opened before him, he returned a respectful denial to their invitation.

"In the year 1759 he received and accepted an unanimous call from the first Presbyterian congregation in the city of Philadelphia. The manner and faithfulness with which he discharged his pastoral duties with this people, until his death, the love and respect which were cherished for him, my brethren, let me ask of you, these your discernment and experience will fully declare. In the year 1773, with the consent of his congregation, he was sent to England to solicit subscriptions for the academy of Newark, in Delaware. While abroad, he travelled through England, Scotland, and Ireland, in which places he was received with that attention which is due to the minister of God, and to the man of science. Four cities presented to him their freedom.* Men who have since held the highest stations of literature sought his acquaintance, and numbered him with their friends. Among these were Dr. Robertson, Dr. Webster, Mr. Balfour, and Dr. Blacklock. So warmly and uniformly was he the friend of America, that at the commencement of the revolution, he resisted many offers from men of power in England to entice him to remain in that country. He has frequently related a conversation which he held with the great Dr. Johnson, in which that sage attacked and he defended the cause and conduct of his countrymen. Without any application, he received while in Scotland the degree of Doctor of Divinity from the University of Edinburgh. The President, when he presented to him his diploma, declared that he had never before conferred a degree with more pleasure. In 1775 he returned to this country, and in 1779 was elected to the Provostship of the University of Pennsylvania. This station he held until his death: to this station he brought large stores of information, and a paternal tenderness that 'pressed the youth beside him' that deserved his approbation, 'and blushed at his own praise.' In all the branches of science and literature which are usually taught in colleges, he was

* "Glasgow, Montrose, Dundee, Perth."

uncommonly accurate, and in his mode of instruction and communicating information on the most abstruse and intricate subjects, he was probably never surpassed. He was frequently employed in public capacities, which brought into action his mathematical knowledge.* He was a distinguished member of the American Philosophical Society, and made to them several approved communications† which have been recorded in the volumes of their transactions.

"Were we to distinguish between his powers, we would say that his understanding predominated over his imagination. He had more the mind of Locke than of Milton. He looked through nature more with the eye of the philosopher than of the poet. The sublimer and minuter forms of matter were objects of his investigation; and we cannot but suppose him to have been gifted with diversified talents, who could scan the illuminated glories of the heavens, and inspect the insect which is only visible to the microscopic eye: We cannot but suppose that his researches were extensive, who looked into the mind of man, analysed his faculties and affections, who unfolded to him the great truths of his God, who looked through the howling wilds and taught the properties of the brutal tribes, who looked through the fields of air and described the race which travel on the wing. In the science of mathematics, Dr. Ewing, if not unrivalled, was unsurpassed by any character in this country. His knowledge of the learned languages was very considerable. The Hebrew language, which is too often neglected by the ministers of God in the present day, was one of his favourite studies. In the mornings of his latter days, he always read a portion of the Scriptures in their original tongue; and you could seldom enter his room without seeing on his couch beside him his Hebrew Bible. His qualifications as a Minister of the Gospel were many and

* "He was one of those gentlemen who were appointed to run the boundary line of Delaware; to settle the boundary between Massachusetts and Connecticut, and between Pennsylvania and Virginia. He was also appointed, in conjunction with Mr. Rittenhouse, by the State of Pennsylvania, to survey the most practicable ground for a turnpike road between Philadelphia and Lancaster."

† "The following were the communications which he made to the American Philosophical Society: 'An account of the Transit of Venus over the Sun, June 3d, 1769, and of the Transit of Mercury, November 9, 1769, both as observed in the State-house square, Philadelphia.' 'An improvement in the construction of Godfrey's Quadrant.'—The manuscripts which he left behind him, besides a large number of Sermons, consist of 'Mathematical calculations,' 'a course of Lectures on Natural Philosophy,' and an unfinished course of Lectures on Natural History. It is probable, that at least a portion of these writings will be offered to the public from the press."

eminent. Science was to him a powerful assistant in the labours of his sacred office. She was with him a handmaid to religion, and aided by her he was an able champion of the cross, both in the advocation of its cause and in the repulsion of the attacks of impiety and error. He was mighty in the Scriptures. To the fountain of all religious knowledge he went for instruction. His religious opinions were not so much founded upon systems written by fallible men, as upon the Scriptures of infallibility. He adopted not Calvin, or Arminius, or Socinus, but the word of God as his guide. He read, he examined, he decided for himself. With the works of commentators and systematical writers he was familiar; he considered them as indispensable assistants to the student; but his veneration for these did not impress upon him a blind obedience to their dictates: He was first convinced by his own researches that they corresponded with the sacred volume, before he acknowledged their authority. His own investigation confirmed him in his belief of the doctrines of grace. These were the doctrines which he preached, and which he endeavoured to impress upon the hearts of his people. His discourses were written with accuracy; the truths which they contained were well examined and digested before he ventured to offer them to the public. He thought it a duty which he owed to his God, and to his hearers, to think before he spoke, to study and ponder in private before he arose in the presence of an audience, as the messenger from Heaven. To God he looked for aid and support; but he looked for his assistance in his study, before he trusted to divine impulse in the sacred desk. Perhaps it may be said with truth, that no minister in this country has adopted a better method of instruction than that which distinguished his discourses; and perhaps it may be said, that none more fully illustrated and confirmed, by plain and decisive reasoning, the passage which he chose for discussion. The style in which he embodied his conceptions was always perspicuous, and occasionally ornamental. Ornament however he did not often employ. He sometimes poured forth 'thoughts that breathed, and words that burned,' but his most usual manner was sober and temperate, such as was adopted before him by Tillotson and Sherlock. Mere declamation was never heard from him; his discourses were always solid and edifying, and so equal in the scale of merit, that perhaps to no one which he wrote in the vigour of his mind, could decided preference be given. His delivery was pleasing and happy; if in his old age, from debility, it was not remarkable for animation; yet it was distinguished by correctness, and it could sometimes touch the finest springs of tenderness and pity."

After some further sketches of the character of Doctor Ewing, as a christian pastor, and in his various domestic and social relations, Mr. L. concludes with appropriate addresses to the family of the deceased, and to the congregation with which he had been connected. These are, in general, well conducted and impressive.

Though in some passages there is, perhaps, too little attention to that simplicity and dignity of style which belongs to this species of composition; yet, on the whole, this discourse does credit to the heart and the taste of the writer.

ART. XIV. *Negro Slavery unjustifiable: a Discourse, by Alexander M'Leod, A. M. Pastor of the Reformed Presbyterian Congregation in the City of New-York. 8vo. pp. 42. New-York. T. & J. Swords. 1802.*

THE subject of domestic slavery is one of the most interesting that can engage the attention of the politician, the moralist, or the christian. That a practice so opposite to every principle of nature, of sound policy, and of christianity, should have prevailed so extensively in all ages, is among those odious instances of the triumph of power over right, and of folly over the plainest dictates of wisdom, of which human nature has always furnished so many examples. But that this practice should be tolerated in the United States, and even sanctioned by the constitution and laws of many of them, is an inconsistency, and a national disgrace from which the mind revolts with peculiar indignation.

Mr. M'Leod has treated this subject in an ingenious, comprehensive and forcible manner. He gives the following account of the origin and design of the present discourse.

"The author of this discourse had a call presented to him, in November, 1800, to take the pastoral charge of a congregation in the county of Orange, in the State of New-York. He perceived among the subscribers the names of some whom he knew to be holders of slaves. He doubted the consistency of enslaving the Negroes with the Christian system, and was unwilling to enter into a full ecclesiastic communion with those who continued the practice. He hesitated to accept the call; but took an early opportunity of writing to the Elders of the Church, and of intimating to the Presbytery his sentiments respecting slavery.

"The Reformed Presbytery has judicially condemned the practice, and warned their connections against it. This pro-

duced an additional evidence of the force of Christian principle. It triumphed over self-interest; and in several parts of the United States, have men sacrificed, on the altar of Religion, the property which the civil law gave them in their fellow men. There is not a slave-holder now in the communion of the Reformed Presbytery.

"A sense of duty determined the author to commit this discourse to the press. In the publication of it he has particularly in view the instruction and establishment of those inhabitants of Orange who have placed themselves under his pastoral care. Through them he addresses all into whose hands the discourse may come."

The plan which the author pursues is,

- I. To show that the practice of buying, holding, or selling our unoffending fellow creatures as slaves is immoral.
- II. To answer objections to this proposition; and,
- III. To make a practical improvement of it.

These several departments of the subject are ably, and, for the most part, satisfactorily discussed. The following remarks show Mr. M'L's. opinion of the opposition of domestic slavery to the natural *rights of man*.

"This appears from the inconsistency of the practice of holding slaves with the *natural rights of man*. This is a term which has been much abused. It is proper that accurate ideas should be annexed to it, otherwise its force, in the present argument, will not be perceptible. If man were a being, owing his existence to accident, and not a creature of God, his rights would indeed be negative. If he stood in a state of independency of his Maker, and not a subject of law, his rights could be determined only by the will of society. But he is neither the *son of chance* nor the *possessor of independency*. His life and his faculties are the gift of God. From heaven he derives positive rights, defined by positive precepts.* Considering man

* "The author of 'Political Justice' maintains that the rights of man are all negative—that *man has no rights*. His reasoning is ingenious, and is certainly less absurd than that which would introduce blasphemy and vice among the rights of man. Both sentiments are, however, absurd, and the absurdity proceeds from the same source. Man is considered in relation to man only. The interest of truth requires this error to be detected and exposed. Before man is considered in relation to man, his relation to God must be understood. This is the primary one. It is that by which all others must be regulated. Consider man as a creature of God, and depending upon his bounty, and you see him receiving certain privileges from that Lord who has a necessary and absolute property in all things. *These are the rights of man.* They are not inherent, but derived.

"Consider man as a creature, and you see him under a law to God. His

as a free agent, by the constitution of nature he has a right to the exercise of freedom, in conformity to the precepts of that law by which the author of nature has ordered him to regulate his actions. A delegated power he has from God, and no creature has a right to restrict him in its rightful exercise. To oppose the force of an individual, or of a society, to this is to wage war against the Supreme Ruler: It is an attempt to reduce a moral agent to a mere machine, whose motions are to be regulated by external force; and, consequently, a denial of his right to the person enslaved, and an arrogant assumption of lawless authority by the usurper. Is it necessary to pursue this argument before an American audience? It is generally, if not universally admitted. The principle is stated and maintained in that instrument which lies at the foundation of your national existence. In defence of it you have fought—you have appealed to the Lord of Hosts; and in its support he has led on your armies to victory."

Mr. M'L. thus speaks of the inconsistency between enslaving our fellow men, and the benevolent principles of the christian religion.

"The system against which I contend is also inimical to that benevolent spirit which is produced and cherished by the gospel of free grace.

"In the system of grace all men are represented as proceeding from one pair—as fallen from a state of integrity and happiness, into a situation that is sinful and miserable. God is revealed as beholding man in this condition with an eye of benevolence—having pity for the distressed, mercy for the miserable, and grace for the unworthy. Jesus, God in our nature, appointed as the Saviour of sinners, and without respect of persons, gathering from the north and from the south, from the east and from the west, out of every kindred, tongue, and people, and nation, an innumerable multitude, to be introduced, through his divine mediation, into a state of unspotted purity and unspeakable happiness.

"The influence which the grace of the gospel has upon the heart, is to cultivate, increase, and perfect every benevolent affection, and suppress all malevolence, extirpating the prin-

possessions are completely circumscribed. Beyond this he has no right. *All the rights of man are derived from God, and agreeable to his law.*

"By punctual attention to this principle, the friends of truth may consistently and successfully combat those who would rob man of his rights, or would unduly extend them. From this double battery, by maintaining a well-directed fire, they may defeat the supporters of civil and religious usurpation on the one side, and the propagators of licentiousness in politics and religion on the other."

plies of sinful selfishness from the soul—to produce a spirit of meekness and self-denial, of readiness to forgive real injuries, and of prayer for the good of our enemies. Yes, the spirit of the gospel is love to God and to man, evidencing its existence by suitable exertions for the glory of our Creator, and the happiness of all our brethren, here and hereafter.

"How does this system, Christian, correspond with the slave-trade? You behold your African brethren in the same miserable state in which you are yourself by nature. Do you not sympathize with them? Your Maker has not excluded them from a share in his love, nor has the blessed Redeemer interdicted them from claiming a share in his salvation. How can you degrade them, therefore, from that rank which their Maker has assigned to them, and endeavour to assimilate them to the beasts that perish. By divine grace you are taught not to love this world, nor to be conformed to its sinful practices. Rom. xii. 2. Look at your slave! How came you by him? Who had a right to tear his father from the bosom of his friends, in order to enslave him and his offspring, and sell this wretched victim to you? How long will religion suffer you to retain him in bondage? for life? Ah! hard-hearted Christian! is it thus you imitate his example who died for your sins? who voluntarily descended from his heavenly glory, and humbled himself into the death, in order to deliver you from slavery? On him rested the spirit of the Lord, for he preached glad tidings unto the meek. He proclaimed liberty to the captive, and the opening of the prison doors to them who were bound. Isa. lxi. 1. Does the same spirit rest on you? does it produce a similar disposition? Consider the contrast: consider it attentively. You have pronounced heavy tidings in the ear of your slave. You have proclaimed bondage for life to the captive. You have even closed upon him the door of hope in his prison. You have purposed to enslave his offspring. Merciful God! how *unmerciful* [unmercifully] do thy creatures act towards one another?"

Mr. M'L. thus answers a common objection to his argument, drawn from the sacred history.

"**OBJECTION IV.** 'God permitted the ancient Israelites to hold their fellow creatures in servitude. Men and women were bought and sold among them. The bond servant is called his master's money. Exod. xxi. 21. Had it been wrong in its nature to enslave any human being, God could not have granted the Hebrews a permission to do it. Negro slavery, stripped of some accidental cruelties, is not necessarily wicked.'

"**ANSWER.** This objection requires minute attention. The fact is granted. Heaven did permit the Hebrews to purchase

some of the human race for servitude. The general principle deduced from this fact is also granted. It is, in certain cases, lawful to enslave our fellow creatures. The application of it to justify the practice of modern nations is by no means admissible.

"God is the Lord of the universe. As the Supreme Governor, he does what is right. His subjects have violated his law, abused their liberty, and rebelled against the majesty of Heaven. They have forfeited to his justice the liberty and the life he gave them. These they must yield. They will, at the time appointed by the Judge, be enclosed in the grave. The sovereign has also a right to the use of whatever instrument he chooses in the execution of the sentence. He may choose the famine or the pestilence, the winds or the waves, wild beasts or human beings, to be the executioners. Again:

"Civil society has certain laws, to which its members, voluntarily claiming its privileges, have assented. A violation of these is the violation of a contract, and the penalty stipulated must be paid by the offender. When, by a person's licentiousness, justice is violated, or society endangered, it is just and necessary to enslave the criminal, and make his services, if possible, useful to society. This much I cheerfully grant; and shall now proceed to show that the objection does not apply to the doctrine which I have been endeavouring to establish.

"You cannot argue conclusively, in defence of negro slavery, from the practice of the ancient Hebrews, unless you can prove, 1st. That the slavery into which they were permitted to reduce their fellow creatures was similar to that in which the negroes are held: and, 2dly. That you have the same permission which they had extended to you. If proof fails in either of these, the objection is invalid, and I undertake to show that both are without proof.

"I. The servitude into which the Hebrews were permitted to reduce their fellow men was attended with such restrictions as rendered it essentially different from the negro slave-trade. It may be considered, 1. With reference to their brethren; 2. As it respected strangers.

"1. A natural descendant of Abraham might, in two cases, be sold by the magistrates into servitude. These were theft and insolvency. And so great was the regard for freedom which their code of laws discovered, that even the thief could not be enslaved while he had property sufficient to answer the demands of the law for the theft. Exod. xxii. 1—4. *If a man shall steal an ox or a sheep, and kill it, or sell it, he shall restore five oxen for the ox, and four sheep for the sheep. If a thief have nothing, then he shall be sold for his theft.* The servitude into which the debtor was sold for the benefit of the creditor was not

severe. Lev. xxv. 39—43. *If thy brother that dwelleth with thee be waxen poor, and be sold unto thee, thou shalt not compel him to serve as a bond-servant; but as an hired servant, and as a sojourner, he shall be with thee. Thou shalt not rule over him with rigour, but shalt fear thy God.* In both cases the duration of this species of slavery was limited to six years. *On the seventh he shall go out free for nothing.* Exod. xxi. 2. And it was required, in the case of the debtor, that his master should give him some stock on which he might again begin business for the support of his family. Deut. xv. 12—15. *When thou sendest him out free, thou shalt furnish him liberally of thy flock, thy floor, and thy wine-press.*

" Both these laws evidence the greatest care of the liberties of individuals which is consistent with the real interest of the nation. They are strong motives to industry, and guard against burdensome taxation for the support of prisons.

" 2. There were two classes of aliens with respect to which the Israelitish law gave directions—those who belonged to any of the neighbouring Canaanitish tribes in particular, and such as belonged to other nations in general. With respect to the latter, the law was exactly the same as to the Hebrews themselves. Lev. xxiv. 22. *Ye shall have one manner of law as well for the stranger as for one of your country.* Verse 35, next chapter. *If thy brother be waxen poor, then thou shalt relieve him—yea, though he be a stranger or a sojourner.* But there are particular exceptions from this general law, which guaranteed from invasion the life, the liberty, and the property of aliens. These exceptions refer to the remains of the conquered tribes living among the Israelites, or to such of the nations of Canaan as were around them. Lev. xxv. 44, 45. *Of the heathen that are round about you, shall ye buy bondmen and bondmaids. Of the children of the strangers that sojourn among you, shall ye buy, and of the families which they begat in your land.* This permission was merciful. The descendants of Abraham were expressly appointed the executioners of the divine sentence against the tribes of Canaan. Extermination was the command; but on their voluntary subjection they were only reduced into a state of servitude. The Israelites were forbidden to use them harshly. Exod. xxi. 26. Accordingly, the Gibeonites, when they巧妙ly obtained the safety of their lives, were reduced into the situation of bond-servants, Joshua ix. When Saul treated them with cruelty, God was offended, and even punished David because he did not avenge that cruelty on the house of Saul, at an early part of his reign. 2 Sam. xxi, 1. I proceed,

" II. To prove that this example is not for our imitation. The Israelites themselves had no right to fit out their ships with their implements of cruelty, in order to steal, buy, stow away,

and chain men of other nations, living without injury to them, at a distance from their shores. Had they done so, no future traffic could have rendered their prizes legitimate. They were officially employed by Heaven to punish the iniquity of the nations which they vanquished. They were ordered to subdue, destroy or enslave the descendants of Canaan, and take possession of the land covenanted to their father Abraham. As a peculiar people, they were to be kept distinct until Messiah should come. The remains of foreign nations could not, therefore, be admitted to the rights of citizenship. The wall of partition is now broken down. All mankind are our brethren. There is no similarity of circumstances between us and the ancient Hebrews—no divine permission that can justify us in holding slaves. Although the slavery were exactly the same with that into which the blacks are reduced, the practice of modern nations would remain unjustifiable.

"The descendants of Shem have, in the Hebrew nation, reduced Canaan into a state of servitude; and the offspring of Japheth have supplanted those of Shem in both spiritual and temporal privileges."

No one can read without indignation the following note to page 19.

'Very few of the States have made any adequate provision for the emancipation of their slaves. But the State of South-Carolina has exceeded her sister States in endeavours to perpetuate this impious practice. What language can express the political inconsistency of a people who have inserted in a republican constitution of government the following section? Constitution of South-Carolina, Art. i. Sect. 6. 'No person shall be eligible to a seat in the House of Representatives unless he is a free white man. If a resident in the election district, he shall not be eligible to a seat in the House of Representatives unless he be legally seized and possessed, in his own right, of a settled freehold estate of five hundred acres of land, and TEN NEGROES.' To tolerate slavery is an evil of no small magnitude; to give it a national recommendation is still more inexcusable; but to render it a condition without which no man can represent, in the legislature, the district in which he lives, exceeds any thing on record in the annals of nations. This Constitution was adopted as late as the year 1790.'

We do not recollect to have met with a publication of the same compass, in which the principal arguments against the slavery of the human species are more clearly stated, and more forcibly urged, than in the present discourse. It is worthy of being perused by all who have any doubts on this subject.

We have only to regret, that in this country, especially, there should be any need of either preaching or printing in support of a principle, which ought to be admitted as a self-evident one, if there be such in morals or religion.

Though Mr. M'L. writes like a man of a vigorous mind, and of general reading; though the arrangement of his discourse is lucid, and his reasoning perspicuous and convincing, yet his style is by no means free from fault. His sentences are so uniformly short as greatly to interfere with the smoothness and harmony of the composition, and the marks of haste and carelessness are frequent. But, notwithstanding these faults, this sermon will be read with pleasure by every friend of humanity and religion, and be considered as holding a very honourable place among the numerous discourses which have been published on the same subject.

ART. XV. The American Universal Geography, or a View of the present State of all the Empires, Kingdoms, States and Republics in the known World, and of the United States of America in particular. To which are added, an improved Catalogue of Names of Places, and their Geographical Situation, alphabetically arranged—an enlarged Chronological Table of remarkable Events, from the Creation to the present Time—a List of ancient and modern learned and eminent Men—and a Table of all the Monies of the World, reduced to the Federal Currency. The whole comprehending a complete and improved System of Modern Geography. Calculated for Americans. Illustrated with twenty-eight Maps and Charts. By Jedidiah Morse, D. D. Minister of the Congregational Church in Charlestown. The Introduction revised and amended by Samuel Webber, A. M. Hollis Professor of Mathematics and Natural Philosophy in the University of Cambridge. Fourth Edition, corrected and considerably enlarged. 8vo. vol. i. pp. 832. Boston. I. Thomas & E. T. Andrews. 1802.

THE last forty years have been distinguished by an extensive and brilliant progress in geographical science. New regions have been discovered, the errors of former circumnavigators corrected, and our knowledge of distant countries greatly enlarged. No geography, strictly speaking, can be accurate which is not the result of actual survey, and diligent

observation. This, in numerous portions of the earth, is still impracticable, and in almost every country, a vast field of improvement in this pleasing and useful science remains to be explored.

In whatever relates to the United States of America, the mistakes of GUTHRIE and other European geographers are numerous, and oftentimes ludicrous. Americans who wish to obtain a general acquaintance with the geography of their own country, will find the work of Dr. MORSE the only one really worthy of being consulted.

The first edition of the *American Geography* was published in 1789. In 1793 the plan of the publication was enlarged so as to include, in a second volume, the geography of the Eastern Continent. The third edition, in 1796, was improved by very large additions and corrections. In the preface to the present edition, Dr. M. remarks that numerous improvements have been made, and the descriptions enriched by information obtained from many late European publications, and from gentlemen of respectability residing in various parts of North-America.

Though Dr. M. has in some respects judiciously deviated from Guthrie in the execution of his work, yet we think that he still adheres too closely to the plan of the English compiler; and much foreign matter might, with advantage, be made to give place to information more strictly connected with the subject. Though Dr. M. has subjoined the usual number of maps to his work, yet their smallness and imperfection perpetually disappoint the hopes of the diligent inquirer. The want of correct maps of the United States, so indispensable in the study of geography, is universally felt and lamented, and we are unable to assign any satisfactory reason why so important a branch of an useful science as that of furnishing these necessary helps should have been neglected. The Legislatures of some of the States have passed laws to aid and encourage map-makers, and the public are eager to patronize every effort of the kind. It is not easy to find a complete collection of accurate maps of the countries on the other continent, deserving the attention of the politician, historian, merchant, or general student. It is certain that there is no collection of those of the United States worthy of notice. Two or three particular maps are valuable; but the rest serve only to misguide and perplex our research. The best general map of North-America is that lately published in London, by ARROWSMITH. He has laid down all the new discoveries on the north-western coast, and the late voyages of Hearne and Mackenzie.

A very correct and beautiful sheet map of Upper Canada, accompanied by a topographical description, was published in 1800, by Mr. Smyth, Surveyor-General of that province.

A valuable map of the State of New-York has just been published by *Simeon DeWitt*, Esq. Surveyor-General of the State.

The public have been so long acquainted with the merits of Dr. M. as an author, that we need not here enter into a particular examination of them: Our situation will not permit us to point out many errors of secondary consequence which can hardly be avoided in a work of such magnitude, relating to an extensive country, and where the author must chiefly rely on correspondents of different characters, rather than on his own personal observation. We shall content ourselves with giving such a general view of the contents of the work as will enable the reader to form some idea of the plan of the author and the manner of its execution.

Regarding this earth as a constituent part of the *Solar System*, that portion of astronomy which relates to it forms a suitable *introduction* to a treatise on geography. This has been executed by professor WEBBER, of the University of Cambridge, in Massachusetts.

To this introduction there might have been adopted, with great propriety, a brief description of the component parts of the earth, according to the new systems of *mineralogy* to be found in the works of WERNER and KIRWAN. Directions also, for the construction of maps, &c. would have been useful to the student. Perhaps Dr. M. may not think these things unworthy of his notice in the future editions of his work.

The reader is first made acquainted with the history of the *discovery* of this continent; his eye is then directed to a *general description of America*. Contracting his view, his attention is confined to *North-America*, a summary account of the *first discovery* and *settlement* of which is arranged in chronological order. Its boundaries and grand divisions are then traced out; and, beginning in the hyperborean regions, he successively surveys *West-Greenland*, which acknowledges the sovereignty of Denmark; and the British Provinces of *New-Britain*, *Upper and Lower-Canada*, *New-Brunswick*, *Nova-Scotia*, and the *Isles of Newfoundland*, *Cape-Breton* and *St. John*.

We may here remark, that *British America*, including not only the provinces enumerated, but extending over all that vast country lying to the north-west of the United States, comprehends a region of immense extent, sufficient for a mighty

empire; but our ideas of its future greatness are checked by the consideration, that much of it is condemned by nature to perpetual frost and barrenness: but there is no natural barrier to prevent the south-western part from becoming the seat of population, arts, and wealth, under the direction of British activity and enterprise.

Dr. M. next proceeds to a general view of the republic of the *United States*, its boundaries, extent, population, rivers, mountains and lakes, soil and productions, its history, religion and revenues, constitution and government.

The grand division of the United States is into northern or eastern, middle and southern. The first division comprehends the five States which pass under the name of New-England; the second includes New-York, New-Jersey, Pennsylvania, Delaware, and the country north-west of the Ohio; the third takes in Maryland, Virginia, Indiana Territory, North-Carolina, Kentucky, Tennessee, South-Carolina and Georgia, and the Mississippi Territory, or that tract of country lying south of Tennessee river, and between the Mississippi and Chatohouchee rivers.

The whole territory of the United States, according to Mr. Hutchins, contains a million of square miles, or 640 millions of acres, of which 59 millions are covered with water. Above one half of this land is yet unsettled. According to the present population of the United States, there is but six inhabitants to a square mile, while France has 175 inhabitants to one square mile. When the former shall become as populous as the latter, we may reckon 175 millions of people. If we take some of the Italian States as a standard, our population must exceed 200 millions to be equal in proportion to that of the kingdom of Naples.

Dr. M. next gives a minute and copious account of the individual States comprised under each of the grand divisions of the American Republic. Though the generality of persons who consult books of this kind for information may not object to the extent of these details, yet some may think that many objects are described with a minuteness disproportionate to their comparative importance and the nature of the work.

Having conducted his readers to the southern boundary of the United States, Dr. M. enters on the Spanish possessions of East and West Florida, Louisiana, Mexico or New Spain, and California, with which he concludes his account of North-America.

Passing the isthmus of Darien, we arrive at South-America,

which is divided among the Spanish, Portuguese, Dutch, French, and the aboriginal inhabitants. The countries belonging to Spain, are Terra Firma, Peru, Chili and Paraguay. Portugal possesses Brazil, the Dutch Guiana, and the French Cayenne. The extensive regions of Amazonia and Patagonia, Dr. M. denominates aboriginal America, as being yet in the possession of the original inhabitants, who, unsubdued by European conquerors, still maintain the nature of freedom and independence.

In this part of his work Dr. M. is extremely brief. While the description of the United States is expanded to six hundred pages, scarcely thirty are devoted to South-America. We regret that Dr. M. has not possessed sufficient sources of authentic information relative to this part of the western continent, to enable him to give a more satisfactory account of the present state of the European possessions there. The vicinity of the Spanish colonies to the United States, and the increasing importance of the commercial relations of the two countries, render them an interesting object of attention. Notwithstanding the paucity of materials, and the general imperfection of our knowledge relative to Spanish America, we think this part of the American geography might be considerably enlarged and improved.

Leaving the continent Dr. M. proceeds to describe the West-India Islands, which are distributed between Great-Britain, Spain, France, Holland and Denmark, according to their respective rights previous to the late war in Europe.

The peace of Amiens has produced some changes in this respect, which he could not notice at the time of publication.

A short account of the discoveries in the northern and southern Pacific Oceans, and on the north-west coast of America, closes the first volume. An *appendix* is subjoined, containing tables of population according to the census of 1800, not inserted in the body of the work, together with a *table* of the real and imaginary monies of the different nations of the world, an account of the federal money, and some *calculations* on the probable increase of the population of the United States, compared with that of the rest of the world.

After the general account we have given of this volume, which certainly contains a large mass of valuable and useful information concerning America, we shall reserve the consideration of the second part, and the further remarks we have to make on the execution of the whole work, to a future number of this review.

ART. XVI. *The Powers of Genius, a Poem, in three Parts.*

By John Blair Linn, A. M. Co-Pastor of the first Presbyterian Church in the City of Philadelphia. Second Edition, corrected and enlarged. 12mo. pp. 191. (Three Plates.) Philadelphia. Conrad & Co. 1802.

IN a former number* we intimated that a second edition of this poem was about to be published; but we should not have thought it necessary to have again noticed it here, were not the additions so considerable† as to deserve our attention.

The favourable reception of the first edition of his work has induced the author to correct and enlarge it.

"He has not," he observes, "been deaf to the voice of approbation or of censure. While the former rewarded his toil and animated his exertions, the latter has rendered him more attentive to defects, and has directed him to the well-known and golden lines of Horace.

"Quintilio si quid recitares, Corrige, sodes,
Hoc, aiebat, et hoc: melius te posse negares,
Bis terque expertum frustra; delere jubebat,
Et male tornatos incidi reddere versus."

Though Mr. Linn has not strictly conformed to that wise precept of the Latin poet, so adverse to the eager impatience of youthful genius—

"Si quid olim
Scripseris, in Metii descendat judicis aures,
Et patris et nostras; nonumque prematur in annum;"

yet he has shown such a laudable disposition to profit by the opinions of others, as must tend to secure to him the encouraging smiles of public approbation. For ourselves, we acknowledge that we have been gratified on observing the hand of correction applied by the author to those faults which were pointed out in our former review.

To the present edition is added the following *preface*:

"Didactic poetry is moral truth cloathed in the garments of Fiction. Its design, more than that of any other species of poetry, is to instruct, to guide the arts, and to trace the laws of propriety and reason. Like prosaical compositions, it delivers the rules and the lessons of knowledge, while it borrows the harmony and images of measured numbers. It has been ge-

* See vol. i. p. 201.

† Five hundred lines are added, almost equal to the whole contained in the former edition.

nerally considered as that species of poetry in which it is most difficult to excel. If it do not inculcate doctrines and opinions which are strictly just, and which will be generally received, it will be condemned; and unless it present those in a manner pleasing and captivating, it will fail in its design of instruction. The didactic poet who is successful must not only be gifted with the power of invention, but he must possess the taste of the critic and the erudition of the scholar. In order to render his subject the more pleasing and ornamental, he may sometimes suffer himself to be carried away by his imagination, and may introduce episodes, like the fables of Aristaeus and Orpheus in the Georgics: But these digressions should always flow naturally from the subject, like small streams which wander from their native channel; they should always be concise and illustrative of some truth advanced in the poem. In didactic poetry a skilful arrangement should be observed. The branches of its argument are always numerous, and of different hues; in order to render these harmonious, and to avoid the incoherence of transition, much attention and art are necessary. As in a building the pillars should be placed where the greatest supports are required, and the ornaments should be exhibited where they will produce the most striking effect; so in a poem of the didactic nature, the arguments should be arranged so as best to uphold the doctrines maintained; and the sentiments and illustrations should follow each other in that order which experience declares is the most impressive.

" The different kinds of didactic poetry are as numerous as the different forms of truth. Some partake of a nature entirely speculative; others deliver precepts which conduce to practice and to the regulation of life. Hesiod has written tracts on husbandry. Lucretius has written a poem on nature. Virgil's Georgics deliver useful directions to rural life. Horace, Vida and Boileau have taught the art of poetry. The Fleece of Dyer delights the lover of nature and instructs the husbandman. Pope has exhibited Man in various characters, and under different circumstances. Sommerville has unkennelled the hounds, mounted the steed, blown the horn of the huntsman, and led on the chace. Akenside has unfolded the pleasures of imagination. Armstrong has taught the art of preserving health; and Polwhele has exhibited the orator, and prescribed rules for his direction.

" After this view of the qualities necessary to the didactic poet, and of the difficulties attending the plan and the execution of didactic poetry; with the examples before me, of those great masters of genius and of science, who have trodden its rugged paths with the toil and patience of years, I have ventured with the haste, eagerness and rashness of youth, to in-

voke the same muse who has rewarded their toils, and to direct my course amidst regions hitherto unexplored. May I hope to be heard?"

The definition of didactic poetry here given appears to be loose and inaccurate. It is too broad, since it comprehends every fiction, in prose as well as verse, the object of which is to inculcate moral truth. The tales in Johnson's Rambler, or Hawkesworth's Adventurer, might, according to Mr. L. be classed under didactic poetry, since they "are moral truth cloathed in the garments of fiction." Some critics of the ancient school, regarding poetry as invented merely to amuse, by agreeable fictions, have maintained, that when the muses condescended to teach the grave lessons of wisdom, their effusions no longer deserved the legitimate name of poetry. Such an opinion, however, is too illiberal and unjust to be admitted. Fiction is by no means essential to a didactic poem. Precepts may be delivered in a manner the most attractive, by the aid of harmonious numbers, splendid and graceful diction, and rich poetical imagery. Hesiod and Horace, Vida and Boileau, Armstrong and Dyer, are not indebted to fiction for the pleasure communicated by their didactic compositions. But our pleasure, it must be allowed, is greatly enhanced by easy and artful digressions, by the introduction of pathetic and interesting tales, which relieve the mind from the tiresome uniformity of an unbroken series of rules and precepts. It is by this adventitious aid, skilfully and happily employed, that Lucretius and Virgil continue to charm, even after a repeated perusal of their immortal poems. Had Virgil, instead of resorting to the stores of his own fertile imagination in the composition of his Georgics, been contented with turning *Varro's* book on husbandry into Latin hexameters, he would have given to his countrymen a didactic poem, useful for the instruction it contained, and pleasing by its melody of numbers and felicity of diction, but too dry, perhaps, to be often read.

The qualities enumerated by Mr. L. as essential to success in didactic poetry, are equally requisite in every composition. His remarks, though just in themselves, for want of due discrimination, lose much of their force, and convey no very distinct ideas of the character and conduct of the didactic muse.

He supposes that there are as many kinds of preceptive poetry as there are forms of truth, or, more properly, subjects of instruction; and he illustrates this observation by the men-

tion of the most celebrated works of this nature. Poetry is commonly divided into different kinds, as epic, dramatic, lyric, didactic, &c. but it would scarcely be deemed correct to say that the *Æneid* of Virgil, the *Jerusalem Delivered* of Tasso, and the *Paradise Lost* of Milton, were different kinds of epic poetry. The subjects of these celebrated poems are dissimilar, and the manner in which they are managed by their respective authors somewhat different; but they all belong to one and the same kind of poetry, the epic.

But to proceed to the poem before us, from which we shall extract a few passages as specimens of the additional matter contained in this edition.

The progress of genius, and the different changes of the mind at the several stages of our existence, are thus described:

“ Research can scarcely modify and range
The various forms and times of mental change;
Beneath fond Nature’s care our bodies grow,
And bear the bounty which her hands bestow.

“ But if to Nature and her free controul,
Be unmolested left the human soul,
In deepest ignorance she would ever dwell,
Dungeon’d with Night within her gloomy cell.
Different in man we see the growth of mind,
Onward moves Genius, Dulness stays behind.
External causes lead to different ways,
When Passion prompts the ready mind obeys.
Some on the wings of wavering Fancy fly,
While some in seas of metaphysics pry.
When first we enter Life’s deceitful scene,
Gaze on the sun and tread the lively green,
All Nature’s objects meet our busy eyes
With equal pleasure, with the same surprise.
The same excitements chill our soul with fear,
The same afflictions draw the melting tear;
The same gay prospects kindle warm desire,
Bid Hope stand tiptoe with her torch on fire—
When further on life’s journey we pursue,
And wider prospects open to our view;
For different objects then our passions burn,
To different paths our inclinations turn.

—If we the progress of the mind survey,
From infant weakness to her sad decay,
We’ll mark the change which years succeeding bring,
The passions which from youth and manhood spring.
—When first our frame the strength of youth assumes,
And novelty on every object blooms;

When knowledge first unrolls her endless page,
 Rich with the records of preceding age ;
 The curious mind then roves with quick surprise,
 Enjoys one object, to another flies ;
 Bends on each scene her momentary sight,
 Sips like the bee, and wantons in delight.

—The wandering memory thro' the fields of lore
 With thoughts and images augments her store :
 Then Fancy fluttering in the morning beam,
 Combines her pictures, gives to Hope her dream :
 Then Judgment slumbering, we are led astray,
 And follow Fiction in her pathless way ;
 We love to listen to some dreadful tale
 Which Mystery darkens with her magic veil.

“ We love to hear of ruins and of halls
 Thro' which some dead man's voice with shuddering ac-
 cent calls.

When years revolving riper knowledge bring,
 And prune the wildness of young Fancy's wing,
 Then Nature rises in true colours dress'd,
 We feel her image pictured on the breast.
 Then cold, disgusted at fair Falshood's charms,
 We throw the wanton from our vigorous arms ;
 Press to our hearts the lovely form of Truth,
 Cloth'd in the beauty of immortal youth.
 Then Judgment, Reason, hold their stedfast reign,
 Nor feel the tangles of Delusion's chain.
 Enchantment then no longer holds its sway,
 And Fancy's fairy landscape fades away.
 Then toils the mind with firm unshaken pace,
 And follows Error in her winding chace :
 She searches Truth amidst the mighty deep,
 She climbs for Knowledge up the rugged steep :
 By demonstration she unveils Disguise,
 And shows the haunt where lurking Folly lies.
 At length old age steals o'er the bending frame,
 Destroys our vigour and our thirst for fame ;
 To mental toil, then weariness succeeds,
 Remembrance looks upon our former deeds ;
 Then no new conquests kindle our desires,
 But proud Ambition glimmers and expires.
 Then loves the mind on early days to dwell,
 To call past life from Memory's darken'd cell.
 Firm in opinions she maintains her course,
 While Opposition spends in vain its force ;
 All her attainments cease—she bids no more
 Invention labour in pursuit of lore ;

Chill o'er the senses noiseless stupors creep,
And sink the passions in a deathful sleep;
Fitful and deep proceeds the vital breath,
And man falls shivering in the arms of Death.
Then from the body bursts the ransom'd soul,
Spurns the base earth and soars where systems roll;
Great God! where angels in thy presence throng,
She rests her flight and joins the ceaseless song."

Our female readers may be pleased with the following tribute to some of the literary ornaments of their sex, who emulate an equal sway with men in the empire of genius.

" To man not only has kind Nature given
Genius which rolls her piercing eye on Heaven,
Enchanting woman bears an equal claim,
To her unfold the golden doors of Fame.
This truth, those names which we have past declare,
Whom Fiction wafts transported thro' the air.
—Where fall'n Palmyra moulders with the ground,
And Terror spreads its misty robe around,
The great Zenobia held her powerful sway,
And with stern virtue bade her realms obey.
Her mind unshaken all the world admire,
And Pity weeping sees the queen expire.
—Hapless in love, in Sorrow's moving strain,
Hear Sappho mourn her unrequited pain.
—Cold-hearted youth, where wanders Phaon now?
Ah! youth neglectful of thy former vow—
—Behold thy maid on bleak Leucadia's brow
Bend o'er the waves which beat the rock below:
Hear her to winds her injur'd love declare,
See her wild tresses streaming in the air;
See her rais'd hands, her blue uplifted eye,
A suppliant pleading with the gods on high.
—Fly cruel youth—haste Phaon, haste to save,
To snatch thy Sappho from the raging wave.
—All aid is vain—ye rolling billows cease!
She seeks with you the silent arms of peace.
—Hear bold Corinna strike her lyric string,
And bear young Pindar on her eagle wing.
—With 'Lion port' and with a nervous hand,
Eliza sway'd the sceptre of her land.
—Nurs'd on the bosom of luxurious France,
The queen of Scotland led the airy dance,
Love's softest lustre wanton'd o'er her face,
Her limbs were form'd, her actions mov'd in grace.

Science and Taste adorn'd her festive court,
 Music and Joy and every 'wilder' sport.
 Gay 'laughs the morn'—the sullen night appears,
 Oft after transport comes the feast of tears;
 Joy strikes the viol—strains of rapture rise,
 The minstrel falls—the voice of music dies.
 Ah! why to pleasure should such pangs succeed,
 Why wast thou, Mary, doom'd so soon to bleed?

"How sweet and musically flows that lay,
 Which now in murmurs softly dies away;
 Colonna bending o'er her husband's bier,
 Breathes those sad numbers hallowed with her tear.
 With active zeal, with honest thirst of fame,
 Hear Dacier vindicate her Homer's name.
 Hear Montague repel light Voltaire's rage,
 Who like a butcher mangled Shakspeare's page.
 Hear from the bosom of the pious Rowe
 The tender strain and warm devotion flow.
 In Woolstonecraft's strong lines behold confess
 The fatal errors of the female breast.
 Behold enforc'd in More's instructive page,
 Lessons of virtue for this careless age.
 Hear Seward weeping over Andre's grave;
 And call for Cook the spirit of the wave.
 To Smith's romances fairy scenes belong,
 And Pity loves her elegiac song.
 Carter both Science and Invention own,
 And Genius welcomes from her watchful throne.
 On Barbauld's verse the circling muses smile,
 And hail her brightest songstress of the British isle."

Mr. L. thus depicts the pains which genius, "tremblingly alive all o'er," is doomed to bear from the frowns of fortune, and the neglect of an unfeeling world.

"If thus her joys above the world's dim eye
 Roll like the planet in the trackless sky,
 If her's are joys which dull souls never know,
 She bleeds the subject of severer woe.
 On life's sad journey she is doom'd to bear
 The sweetest pleasure and the keenest care.
 She feels each wound, and every nerve and vein
 Thrills to the pressure of neglect and pain.
 High are her thoughts, her hopes and her desires,
 Higher than thrones her bounding soul aspires;
 She looks for gifts she never can obtain,
 And grieves to find her fondest visions vain.

She looks on sorrow with a melting eye,
And breathes for man, the sympathising sigh:
Unfeeling world why sufferest thou to roam,
Without protection and without an home,
In cheerless shades, unpitied and alone,
Genius—entitled to thy golden throne?
Whence flow that lore and intellectual light
Which cheer thy regions and infuse delight?
Whence, but from yon lone fugitive who roves,
And tells her sorrows to the sadful groves.
Whence, but from Genius, whose inspiring lays
Too oft thy malice and thy scorn repays?
—As late I roam'd the Hudson's banks along,
What time the night-bird pour'd his gloomy song;
What time the moon threw her ascending beam
O'er Night's dark bosom and the wizard stream;
I heard this strain—(it now no longer flows,
Peace to the ashes of a man of woes!)
Here on this beaten rock, O let me rest!
Breathe thou damp gale upon my throbbing breast!
Roll on bold River, let me hear thee rave,
I love the music of thy silver wave.
Long years have flown since I, a careless boy,
Plung'd in thy waters with a boisterous joy.
Now worn with care, to every joy unknown,
I seek thy shades unpitied and alone.
In early youth my steps were led astray
From Gain's proud temple by the Muse's lay;
From crowded streets and busy throngs I fled
Where woodland-scenes and quiet vallies spread.
Fair Nature's haunts unwearied I explor'd,
Where sang the stream, where failing waters roar'd.
A fond enthusiast on the mountain's brow,
I heard the echo babble from below.
I lov'd the dingle and the tangled dell,
And crept with silence to her hermit-cell.
Nature I lov'd when cloth'd in mildest charnis,
She lur'd sweet Quiet to her fondling arms.
I lov'd her more when with her clouds o'er-cast,
She hove the ocean with her yelling blast,
When thunders roll'd from her Creator's hand,
Burst from the skies and shook the wondering land—
I heard entranc'd the Grecian's epic-strain,
Enraptur'd listen'd to the Mantuan swain;
Rov'd thro' the mazes of poetic lore,
And sigh'd to think the muse had told no more.

Ye bards of old, why did my infant days
 Become enchanted with your golden lays?
 Why did I listen to the trump of Fame
 Which sounded glory on the poet's name?
 Why did I flee the bloody fields of war,
 Nor meet contention at my country's bar?
 Behold the trophies which I now have won,
 My works neglected and myself undone.
 In place of fame—yon little cottage-shed
 Spreads its low shelter on my humbler head;
 There buried deep from every human eye,
 Unknown, unpitied, ever let me lie.
 May no one come to shed the thrilling tear,
 And say Eugenio liv'd and perish'd here.
 Farewell cold world, farewell thou pallid beam,
 Farewell to Hope and every flattering dream.
 Soon shall Eugenio's solitary grave
 Give peace and comfort which ye never gave.
 —Grant me, O God! my shelter and my stay,
 Peace which the world can never take away—
 Forgive my errors, all my sins forgive,
 And in thy mansions, Father, let me live."

From these extracts the reader will estimate the value of the additions which have been made. Several new notes have also been added, and the whole much improved.

Among the smaller pieces in this volume we find two not contained in the former edition—an "Address to Hope," and a "Picture of Morning."

The former will serve to show the author's success in *lyric* poetry.

" Dejection shades the face of day,
 Each golden vision fades away.
 No more the balmy-breathing spring
 Wafts health and transport on her wing;
 No more with joy I spend the hours,
 And slumber in Arcadian bowers;
 No more along the gladsome plain
 I frolic with the piping swain;
 Nor wandering by the stealing wave
 Call sportive echo from her cave:
 Descends the night with all its gloom,
 And horror beckons from the tomb.
 My days in museful darkness roll,
 And clouds sit heavy on my soul.
 Ye hours of joy where are ye fled,
 Ye airy sports which crown'd my head?

Why comes not peace with grey-ey'd morn,
Nor when pale Cynthia fills her horn?
Why do my wanderings shun the light
And court the fairy-footed night?
Say, flattering Hope, where wanderest thou,
Where hast thou made thy dwelling now?
Dost thou with care-worn monarchs dwell,
Or sleep'st thou in the Hermit's cell?
Or dost thou seek the Peasant's shed
To bless his crust, to bless his bed?
Or dost thou o'er the Sailor boy
Wave thy light wings in wanton joy;
And when he climbs the top-mast high,
Dart searching rapture from his eye?
Or dost thou warm the Lover's breast
And lull his busy thoughts to rest;
Present before his eager view
His chosen maid in colours true,
And whisper to his listening ear,
Mourn not, fond youth, cease every tear,
Dispel your sorrows and alarms,
Anna shall meet your circling arms?

“ Where'er thou art, Hope, hither come,
And make with me thy happy home;
Come with thy blue enraptur'd eye
Which spurns the earth, but loves the sky;
Come with thy robes of silver hue,
With sandals bath'd in morning dew,
With hair all streaming in the gale,
With steps that scarcely kiss the vale;
Come and bring with thee along
Laughter, and Sport, and merry Song,
Such as most loves the Shepherd's reed,
While graze his flocks the fragrant mead;
Come with thy fanning wings thro' air,
And banish hence the fiend Despair:
Let thy mild voice salute mine ear
And on thy bosom fall my tear.
Those thoughts which love the grave, repress,
And pillow on thine arms distress.

“ Gay Hope, I know that cruel guile
Lurks in the magic of thy smile,
That thou oft whisperest peace to-morrow
To cheer the gloomy night of sorrow;
But when ascends the orb of day,
Thee and thy boon are flown away,

The wandering light which on the moor
Leads on the sad bewildered boor
Thro' bogs, and brakes, and darksome dell,
Where death and wakeful terrors dwell,
Is like thy fair entrancing form,
Which smiles to peace, but beckons storm.

"O look upon that pathless wild!
Where mourns the aged man his child,
Son of his years, his only care,
For whom he breath'd his fervent prayer;
For whom he toil'd the busy day
Till age had torn his locks away.

"Look on that lovely maid who lies
The victim of unceasing sighs—
In thy bright smile her youth arose,
Thy cradling arms rock'd her repose;
But when an artful villain came
Prophaning Love's all gentle name,
Seducing smiles her bosom won,
She leant on Hope, and was undone—
Now outcast, by the tempest tost,
She mourns her peace for ever lost.

"But tho' deception's in thy smile,
Come Hope and live with me awhile;
O come and cheer this dark abode,
And tread with me this toilsome road;
Let me thy flattering offers share,
Come build me palaces in air;
Dress me in never-fading flowers,
Lead me amid o'ershadowing bowers;
Salute me with thine angel lay
Till I in transports melt away.
Bear me above this sluggish earth,
Its low pursuits, its noisy mirth,
And let the music of the spheres
And hymning angels meet mine ears.
One promise Hope which thou hast made
Shall never, never, never fade;
'Tis that which bids me look on high
To yon bright world above the sky,
Where God my maker reigns alone
And calls his children round his throne:
Then haste ye rolling years away,
Sink worlds and systems in decay;
Break thou bright day upon the night,
When heaven shall open on my sight."

ART. XVII. *Messiah's Throne: A Sermon preached before the London Missionary Society, at their eighth Annual Meeting, in Tottenham-Court Chapel, on the Evening of Thursday, the 13th of May, 1802.* By John M. Mason, *A. M. Pastor of the Associate-Reformed Church in the City of New-York.* 8vo. pp. 24. *New-York.* Vermilye & Crooker. 1802.

THE Rev. Mr. Mason, of New-York, being in London at the eighth annual meeting of the London Missionary Society, was requested to deliver one of the four sermons regularly preached before that body at each stated meeting. This sermon was, of course, committed to the press with the other three; and, immediately on its arrival in this country, was reprinted.

Like most of the other productions of the same gentleman which have been laid before the public, this sermon evinces piety, genius and taste. His object is to display the "personal glory," and the "sovereign rule," of Messiah; and from these considerations to confirm the hopes, and to animate the exertions, of christians.

Mr. M. thus speaks of the evidences of the divinity of Christ:

"To the single eye nothing can be more evident than that the Holy Ghost here asserts the *essential deity* of our Lord Jesus Christ. Of his enemies, whom he will 'make his footstool,' some have, indeed, controverted this position, and endeavoured to blot out the text from the catalogue of his witnesses. Instead of 'thy throne, O God,' they would compel us, by a perversion of phraseology, of figure, and of sense, to read, 'God is thy throne;' converting the great and dreadful God into a symbol of authority in one of his own creatures. The scriptures, it seems, may utter contradictions or impiety, but the divinity of the Son they shall not attest. The crown, however, which 'flourishes on his head,' is not to be torn away, nor the anchor of our hope to be wrested from us, by the rude hand of licentious criticism.

"I cannot find, in the lively oracles, a single distinctive mark of deity which is not applied, without reserve or limitation, to the only begotten Son. 'All things whatsoever the Father hath, are *his.*' Who is that mysterious WORD that was 'in the beginning, with God?' Who is the 'Alpha and Omega, the beginning and the ending, the first and the last, the Almighty?' Who is he that 'knows what is in man,' because he searches the deep and dark recesses of the heart? Who is

the Omnipresent, that has promised, ‘Wherever two or three are gathered together in my name, there am I in the midst of them?’ the light of whose countenance is, at the same moment, the joy of heaven, and the salvation of earth? who is encircled by the Seraphim on high, and ‘walks in the midst of the golden candlesticks?’ who is in this assembly; in all the assemblies of his people? in every worshipping family? in every closet of prayer? in every holy heart? ‘Whose hands have stretched out the heavens and laid the foundations of the earth?’ Who hath replenished them with inhabitants, and garnished them with beauty, having created all things that are in both, ‘visible and invisible, whether they be thrones, or dominions, or principalities, or powers?’ By whom do ‘all things consist?’ Who is ‘the governor among the nations, having on his vesture and on his thigh a name written ‘King of Kings and Lord of Lords?’ Whom is it the Father’s will that ‘all men should honour, even as they honour himself?’ Whom has he commanded his angels to worship? whom to obey? Before whom do the devils tremble? Who is qualified to redeem millions of sinners ‘from the wrath to come,’ and preserve them, by his grace, to his everlasting kingdom? Who raiseth the dead, ‘having life in himself, to quicken whom he will,’ so that at his voice, ‘all who are in their graves shall come forth;—and death and hell’ surrender their numerous and forgotten captives? Who shall weigh, in the balance of judgment, the destinies of angels and men? dispose of the thrones of paradise? and bestow eternal life? Shall I submit to the decision of reason? Shall I ask a response from heaven? Shall I summon the devils from their ‘chains of darkness?’ The response from heaven sounds in my ears; reason approves, and the devils confess—This, O Christians, is none other than the GREAT GOD our SAVIOUR!

“Indeed, my brethren, the doctrine of our Lord’s divinity is not, as a *fact*, more interesting to our faith, than, as a *principle*, it is essential to our hope. If he were not ‘the true God,’ he could not be ‘eternal life.’ When pressed down by guilt and languishing for happiness, I look around for a deliverer, such as my conscience, and my heart, and the word of God assure me I need, insult not my agony, by directing me to a creature—to a man, a mere man like myself! A creature! a man! My Redeemer owns my *person*. My immortal spirit is his *property*. When I come to die, I must commit it into his hands. My soul! my infinitely precious soul committed to a mere man! become the property of a mere man! I would not, thus, entrust my *body* to the highest angel who burns in the temple above. It is only the ‘Father of spirits’ that can have *property* in spirits, and be their refuge in the hour of

transition from the present to the approaching world. In short, my brethren, the divinity of Jesus is, in the system of grace, the sun to which all its parts are subordinate, and all their stations refer—which binds them in sacred concord; and imparts to them their radiance, and life, and vigour. Take from it this central luminary, and the glory is departed—Its holy harmonies are broken—The elements rush to chaos—The light of salvation is extinguished for ever!"

In the following eloquent passage Mr. M. speaks of the *preservation* of the Church:

"The long existence of the Christian Church would be pronounced, upon common principles of reasoning, impossible. She finds in every man a natural and inveterate enemy. To encounter and overcome the unanimous hostility of the world, she boasts no political stratagem, no disciplined legions, no outward coercion of any kind. Yet her expectation is that she shall live for ever. To mock this hope, and blot out her memorial from under heaven, the most furious efforts of fanaticism, the most ingenious arts of statesmen, the concentrated strength of empires, have been frequently and perseveringly applied. The blood of her sons and her daughters has streamed like water; the smoke of the scaffold and the stake, where they won the crown of martyrdom in the cause of Jesus, has ascended in thick volumes to the skies. The tribes of persecution have sported over her woes, and erected monuments, as they imagined, of her perpetual ruin. But where are her tyrants, and where their empires? The tyrants have long since gone to their own place; their names have descended upon the roll of infamy; their empires have passed, like shadows over the rock—they have successively disappeared, and left not a trace behind!"

"But what became of the church? She rose from her ashes fresh in beauty and in might. Celestial glory beamed around her; she dashed down the monumental marble of her foes, and they who hated her fled before her. She has celebrated the funeral of kings and kingdoms that plotted her destruction, and, with the inscriptions of their pride, has transmitted to posterity the record of their shame. How shall this phenomenon be explained? We are, at the present moment, witnesses of the fact; but who can unfold the mystery? This blessed book, the book of truth and life, has made our wonder to cease. 'THE LORD HER GOD IN THE MIDST OF HER IS MIGHTY.' His presence is a fountain of health, and his protection a 'wall of fire.' He has betrothed her, in eternal covenant, to himself. Her living head, in whom she lives, is above, and his quickening Spirit shall never depart from her."

Armed with divine virtue, his gospel, secret, silent, unobserved, enters the hearts of men, and sets up an everlasting kingdom. It eludes all the vigilance, and baffles all the power, of the adversary. Bars, and bolts, and dungeons are no obstacle to its approach: Bonds, and tortures, and death cannot extinguish its influence. Let no man's heart tremble, then, because of fear. Let no man despair, in these days of rebuke and blasphemy, of the Christian cause. The ark is launched, indeed, upon the floods; the tempest sweeps along the deep; the billows break over her on every side. But Jehovah-Jesus has promised to conduct her in safety to the haven of peace. She cannot be lost unless the pilot perish. Why then do the heathen rage, and the people 'imagine a vain thing?' Hear, O Zion, the word of thy God, and rejoice for the consolation. 'No weapon that is formed against thee shall prosper, and every tongue that shall rise against thee in judgment thou shalt condemn.—This is the heritage of the servants of the Lord, and their righteousness is of me, saith the Lord.'

We shall only add to the foregoing quotations the following passage, with which Mr. M. closes his discourse:

'For the world, indeed; and perhaps for the church, many calamities and trials are in store, before the glory of the Lord shall be so revealed, that 'all flesh shall see it together.' 'I will shake all nations,' is the divine declaration, 'I will shake all nations; and the desire of all nations shall come.' The vials of wrath which are now running, and others which remain to be poured out, must be exhausted. The 'supper of the great God' must be prepared, and his 'strange work' have its course. Yet the Missionary cause must ultimately succeed. It is the cause of God, and *shall* prevail. The days, O brethren, roll rapidly on, when the shout of the isles shall swell the thunder of the Continent; when the Thames and the Danube, when the Tiber and the Rhine, shall call upon Euphrates, the Ganges, and the Nile; and the loud concert shall be joined by the Hudson, the Mississippi, and the Amazon, singing with one heart and one voice, Alleluia! Salvation! The Lord God omnipotent reigneth!"

ART. XVIII. *Abaelino the Great Bandit.* Translated from the German, and adapted to the New-York Theatre. By William Dunlap, Esq. 12mo. pp. 82. New-York. Longworth. 1802.

THE mysterious circumstances which surround the character of Abaelino, give to the drama its whole interest. At one time we see him the associate of a band of bravos, who

had spread terror through the city of Venice, at another the companion of senators, and a distinguished favourite of the doge; at one time the descendant of a noble family and heir to a princely fortune, at another an impostor; at one time the actual murderer of Matheo, and the reputed murdeter of his best friends and benefactors, at another as the deliverer of Venice from the scourge of assassins, and the preserver of those lives which he was supposed to have destroyed; at one time as the real bandit driven by persecution to seek a refuge in profligacy, at another as having only assumed that appearance for virtuous purposes; in short, at one time as the terrible Abaelino, whose name made "the republic tremble," and at another as the accomplished, amiable, gallant Flodoardo, not less esteemed for his private worth than admired for his valour. These transitions awaken curiosity, and keep it alive to the very close, though without being gratified. The surprise which has been excited by the singular conduct of Abaelino is not removed by any satisfactory explanation, and the character in many material parts is left altogether inconsistent with itself. In a moral point of view, the piece has little to recommend it; indeed, it is in this respect scarcely free from objection: however, it abounds with incidents so full of effect, and excites so much expectation, that it will long continue to please both in the perusal and representation.

We have several times spoken of Mr. Dunlap's merits as a translator; the praise we have heretofore bestowed upon him in this capacity may with great propriety be renewed on the present occasion.

ART. XIX. *The Doctrine of Election considered and explained, in a Sermon, delivered before the Presbytery of New-Lebanon, June 3, 1801, and occasionally in different Congregations elsewhere. By Beriah Hotchkin, A. M. Pastor of the Church in Greenfield. 12mo. pp. 27. Hudson. Stoddard. 1801.*

THIS sermon, on a very important and much controverted subject in christian theology, was committed to the press, as the author informs us, at the request of a body of ministers before whom it was delivered. It is intended to defend the Calvinistic mode of holding and explaining the doctrine of election. Though the writer has advanced nothing new; yet he is evidently a man of respectable talents, and discovers a becoming seriousness of mind, and a considerable capacity for investigation and reasoning.

ART. XX. *A Prayer Book for the Use of Families; prepared by the Association of Ministers on Piscataqua River, and recommended by them, as an Assistant to the Social Devotions of Families.* 12mo. pp. 96. *Portsmouth, (New-Hampshire).* Peirce. 1802.

WHATEVER may be said in favour of extemporary prayer, there is no doubt that *forms* are sometimes necessary and useful. Scarcely any serious mind can deny their utility in promoting the devotion of families, where there is some disposition to maintain domestic religion, and but little capacity to conceive and express a suitable prayer in the presence of others.

This little volume is calculated to answer the purpose for which it is intended. It begins with a plain and solemn address to heads of families. To this succeeds twenty-four forms of prayer, which are, in general, well composed. We have no doubt that it will prove an agreeable and useful manual in families and schools.

ART. XXI. *An Inaugural Dissertation, in which, by an Induction of Facts, from Dysentery, the Mitchillian Doctrine of Pestilential Fluids is illustrated. Submitted to the public Examination of the Faculty of Physic under the Authority of the Trustees of Columbia College, in the State of New-York, the Right Rev. Benjamin Moore, D. D. President, for the Degree of Doctor of Physic, on the 9th Day of November, 1802. By Nicholas I. Quackenbos, A. B. Citizen of the State of New-York.* 8vo. pp. 39. *New-York.* T. & J. Swords. 1802.

HAVING repeatedly had occasion to speak of the *Mitchillian doctrine of pestilential fluids*, in the course of this work, we shall take for granted that our readers understand its nature. Mr. Quackenbos is a strenuous advocate for this doctrine; which he illustrates and defends with considerable ingenuity. We shall not attempt an examination of the several opinions which he delivers in the course of the inquiry, believing that a publication made not voluntarily, but as a prescribed task, ought not to be subjected to the severity of criticism. Mr. Q. has given a very reputable specimen of information and talents.

ART. XXII. *An Inaugural Dissertation on the Perspirable Fluids of the Human Body. Submitted to the public Examination of the Faculty of Physic under the Authority of the Trustees of Columbia College, in the State of New-York, the Right Rev. Benjamin Moore, D. D. President, for the Degree of Doctor of Physic, on the 9th Day of November, 1802. By Richard L. Walker, of New-York.*
8vo. pp. 53. New-York. T. & J. Swords. 1802.

IN this essay Mr. Walker treats of the *physiology of perspiration*, or its condition during the continuance of health; of its *pathology*, or state during disease; and of the alterations which the perspired fluids undergo, by chemical action, *after secretion*. On these subjects he delivers the commonly received doctrines in a manner which indicates reading and reflection. We are pleased to see in the medical graduates of our country so many evidences of industry and observation.

ART. XXIII. *A Discourse, delivered before the Members of the Boston Female Asylum, September 24, 1802, being their second Anniversary. By Joseph Eckley, D. D. Minister of the Old South Church in Boston.* 8vo. pp. 22. 1802.

IT is gratifying to find that the charitable institution for the benefit of which this discourse was delivered, continues to flourish and increase. Dr. Eckley pleads the cause of humanity in a very agreeable and becoming manner. The sentiments which he delivers are just and suitable, and his language neat, simple, and impressive.

ART. XXIV. *An Oration, delivered at Plymouth, December 22, 1802, at the Anniversary Commemoration of the first Landing of our Ancestors at that Place. By John Quincy Adams.* 8vo. pp. 31. Boston. Russell & Cutler. 1802.

IN our Review* of a similar performance of Mr. Adams, we had occasion to express our approbation of his talents. The present Oration has served to confirm the opinion we en-

* Vol. ii. page 171.

ertain of his literary merit, and we shall be happy hereafter to witness, on subjects of greater magnitude and more durable interest, a display of those stores of learning and knowledge which we believe him to possess.

The institution of this annual festival of the descendants of the first colonists of Massachusetts owes its origin, we are told, to the late Dr. Belknap, the historian of New-Hampshire. The design is worthy of its patriotic and venerable author. Nothing can tend more to invigorate the generous feelings of our nature than the habitual recollection of the virtues, the sufferings, and constancy of those from whom we derive our birth.

In the following passage Mr. A. with pleasing animation, asserts the superior claims of the founders of New-England to the respect and gratitude of their posterity.

" In reverting to the period of their origin, other nations have generally been compelled to plunge into the chaos of impenetrable antiquity, or to trace a lawless ancestry into the caverns of ravishers and robbers. It is your peculiar privilege to commemorate in this birth-day of your nation, an event ascertained in its minutest details: an event of which the principal actors are known to you familiarly as if belonging to your own age: an event of a magnitude before which imagination shrinks at the imperfection of her powers. It is your further happiness to behold in those eminent characters who were most conspicuous in accomplishing the settlement of your country, men upon whose virtues you can dwell with honest exultation. The founders of your race are not handed down to you, like the father of the Roman people, as the sucklings of a wolf. You are not descended from a nauseous compound of fanaticism and sensuality, whose only argument was the sword, and whose only paradise was a brothel. No Gothic scourge of God—No Vandal pest of nations—No fabled fugitive from the flames of Troy—No bastard Norman tyrant appears among the list of worthies who first landed on the rock, which your veneration has preserved as a lasting monument of their achievement. The great actors of the day we now solemnize were illustrious by their intrepid valour no less than by their christian graces; but the clarion of conquest has not blazon'd forth their names to all the winds of Heaven. Their glory has not been wafted over oceans of blood to the remotest regions of the earth. They have not erected to themselves colossal statues upon pedestals of human bones; to provoke and insult the tardy hand of heavenly retribution. But theirs was ' the better fortitude of patience and heroic martyrdom.' Theirs

was the gentle temper of christian kindness—the rigorous observance of reciprocal justice—the unconquerable soul of conscious integrity. Worldly Fame has been parsimonious of her favours to the memory of those generous champions. Their numbers were small—their stations in life obscure—the object of their enterprise unostentatious—the theatre of their exploits remote : how could they possibly be favourites of worldly Fame ? That common crier, whose existence is only known by the assemblage of multitudes—that pander of wealth and greatness so eager to haunt the palaces of fortune, and so fastidious to the houseless dignity of virtue—that parasite of pride, ever scornful to meekness, and ever obsequious to insolent power—that heedless trumpeter, whose ears are deaf to modest merit, and whose eyes are blind to bloodless distant excellence.

“ When the persecuted companions of *Robinson*, exiles from their native land, anxiously sued for the privilege of removing a thousand leagues more distant to an untried soil, a rigorous climate and a savage wilderness, for the sake of reconciling their sense of religious duty with their affections for their country, few, perhaps none of them, formed a conception of what would be within two centuries the result of their undertaking. When the jealous and niggardly policy of their British sovereign denied them even that humblest of requests, and, instead of liberty, would barely consent to promise connivance, neither he nor they might be aware that they were laying the foundations of a power, and that he was sowing the seeds of a spirit, which, in less than two hundred years, would stagger the throne of his descendants, and shake his united kingdoms to the centre. So far is it from the ordinary habits of mankind to calculate the importance of events in their elementary principles, that had the first colonists of our country ever intimated, as a part of their designs, the project of founding a great and mighty nation, the finger of scorn would have pointed them to the cells of bedlam, as an abode more suitable for hatching vain empires than the solitude of a transatlantic desert.”

With a pious and not mistaken zeal, Mr. A. vindicates the conduct of his ancestors, in relation to the aboriginal inhabitants, and to their own dissenting brethren. Another extract will be sufficient to show Mr. A.’s manner of writing.

“ No European settlement ever formed upon this continent has been more distinguished for undeviating kindness and equity towards the savages. There are indeed moralists, who have questioned the right of the Europeans to intrude upon the possessions of the aborigines in any case, and under any limitations whatsoever. But have they maturely considered the

whole subject? The Indian right of possession itself stands, with regard to the greatest part of the country, upon a questionable foundation. Their cultivated fields; their constructed habitations; a space of ample sufficiency for their subsistence, and whatever they had annexed to themselves by personal labour, was undoubtedly by the laws of nature theirs. But what is the right of a huntsman to the forest of a thousand miles over which he has accidentally ranged in quest of prey? Shall the liberal bounties of Providence to the race of man be monopolized by one of ten thousand for whom they were created? Shall the exuberant bosom of the common mother, amply adequate to the nourishment of millions, be claimed exclusively by a few hundreds of her offspring? Shall the lordly savage not only disdain the virtues and enjoyments of civilization himself, but shall he controul the civilization of a world? Shall he forbid the wilderness to blossom like the rose? Shall he forbid the oaks of the forest to fall before the axe of industry, and rise again, transformed into the habitations of ease and elegance? Shall he doom an immense region of the globe to perpetual desolation, and to hear the howlings of the tyger and the wolf silence for ever the voice of human gladness? shall the fields and the vallies, which a beneficent God has formed to teem with the life of innumerable multitudes, be condemned to everlasting barrenness? Shall the mighty rivers poured out by the hands of nature, as channels of communication between numerous nations, roll their waters in sullen silence and eternal solitude to the deep? Have hundreds of commodious harbours, a thousand leagues of coast, and a boundless ocean been spread in the front of this land, and shall every purpose of utility to which they could apply be prohibited by the tenant of the woods? No, generous philanthropists! Heaven has not been thus inconsistent in the works of its hands! Heaven has not thus placed at irreconcileable strife, its moral laws with its physical creation? The pilgrims of Plymouth obtained their right of possession to the territory on which they settled by titles as fair and unequivocal as any human property can be held. By their voluntary association they recognized their allegiance to the government of Britain; and in process of time received whatever powers and authorities could be conferred upon them by a Charter from their Sovereign. The spot on which they fixed had belonged to an Indian tribe, totally extirpated by that devouring pestilence which had swept the country, shortly before their arrival. The territory thus free from all exclusive possession, they might have taken by the natural right of occupancy. Desirous however of giving ample satisfaction to every pretence of prior right, by formal and solemn con-

ventions with the chiefs of the neighbouring tribes, they acquired the further security of a purchase. At their hands the children of the desert had no cause of complaint. On the great day of retribution, what thousands, what millions of the American race will appear at the bar of judgment to arraign their European invading conquerors! Let us humbly hope that the fathers of the Plymouth Colony will then appear in the whiteness of innocence. Let us indulge the belief that they will not only be free from all accusation of injustice to these unfortunate sons of nature, but that the testimonials of their acts of kindness and benevolence towards them will plead the cause of their virtues as they are now authenticated by the records of history upon earth."

This Oration discovers taste, information and reflection. The topics are pertinent and well selected, the arrangement is judicious, the illustrations pleasing, and the language forcible and correct.

ART. XXV. *Facts and Observations relative to the Origin, Progress and Nature of the Fever which prevailed in certain Parts of the City and Districts of Philadelphia, in the Summer and Autumn of the present Year, (1802).*
By William Currie and Isaac Cathrall. To which is added a Summary of the Rise and Progress of the Disease in Wilmington, communicated by Dr. E. A. Smith and Dr. John Vaughan, of that Borough. 8vo. pp. 58.
Philadelphia. Woodward. 1802.

THIS pamphlet is written for the purpose of establishing certain facts which are supposed to prove the importation and contagiousness of the yellow fever which appeared at Philadelphia in the summer and autumn of 1802. With this intention the authors go into long details of facts, which they relate in a very perplexed and obscure manner, and with little reference to those points on which the question must principally hinge. Much of the matter they produce, particularly some quotations from their opponents in this argument, whose leading facts they do not undertake to contradict, would seem to operate powerfully against the doctrine they maintain. This mode of self-refutation, this logical suicide, affected us at first with some surprise; but, on arriving at the end of the performance, we were convinced, that whatever learning and judgment the authors may otherwise possess on the subject of yellow fever, they do not display that skill in marshalling their forces

on the field of argument, which will always be necessary to attain the character of successful polemics.

All the authority resulting from the declared opinion of Drs. Currie and Cathrall is offered in support of the contagiousness of the yellow fever, and its importation into Philadelphia, last summer, from the West-Indies, in the St. Domingo Packet. But authority goes not far on a question of this kind. Dr. *D. Roque José de Oyarvide*, whose publication on the yellow fever, as it appears at the Havanna, we have lately seen, is positive that the city in which he resides is ravaged by this disease in consequence of its importation from the United States. We cannot, therefore, lose this opportunity of recommending it to our authors to collect all their force of facts and reasonings, and to join issue with the learned Spaniard on this simple, but interesting question, "Whether the yellow fever is imported from the United States into the West-Indies, or from the West-Indies into the United States?"

As a specimen of the mode of reasoning which these gentlemen adopt, we offer to our readers the following paragraphs:

" If the disease was derived from putrid exhalations, it would be impossible to prevent it from returning annually, because it is impossible to remove all the sources of putrefaction from a large city. Mud and putrefiable materials will collect in docks, sewers, sinks, privies, grave-yards, slaughter-houses, shambles and tan-pits, in spite of all the vigilance and precautions that can be used. The flats and ponds at either end of the city, and on the commons, will always pour forth their noxious steams in the warm season, and gloomy and hideous would be the prospect of the citizens, harrassed every returning summer by the dread of the fell destroyer.

" With this view of the subject, which is by no means an exaggerated one, we leave it to the judgment of every dispassionate inquirer, whether, when considered in all its relations, the belief in the domestic origin of pestilence would not check the growth, and affect the prosperity of this city infinitely more than the belief of its being imported from foreign countries; especially as in the latter case, by vigilance and proper precautions, its introduction might be prevented without imposing intolerable burthens upon the trading part of the community; or if it gained admittance, it might be completely extinguished before it had time to spread.

" If the cities of the neighbouring States should profit by the establishment of our quarantine regulations, by being less particular or strict with theirs, their triumph would be but short,

or, at best, precarious; since, if through their remissness it should gain admission among them, of which there can be little doubt, the injury it would occasion in one year by the dispersion or mortality of the inhabitants, and the consequent suspension of the pursuits of industry, and interruption to the operations of commerce, would be infinitely greater than could possibly result from the most rigorous quarantine in seven, independent of the sufferings and complicated miseries which it occasions to many worthy individuals.

"Some of the medical gentlemen who advocate the opinion that the yellow fever originates from the effluvia of putrifying substances in our commercial cities, aware of the difficulty of accounting for the production of a disease of so malignant a nature, now, by those causes, when it is universally known that they did not produce it formerly, (for not a single case of such a disease was ever observed in Philadelphia, from the end of the year 1762 to the beginning of 1793, during which long interval putrid materials were much more abundant, and much less attended to, than they have been since the year 1793), pretend to have discovered an agent in the regions of 'the viewless air,' which, by uniting with the causes of the simple ague and fever, have converted them into pestilential principles, and have produced this deplorable effect."

Our authors do not seem to be aware that the long interval they state between the epidemics of 1762 and 1793, creates as much difficulty on the hypothesis of the *foreign* as of the *domestic* origin of the yellow fever. If the disease can become epidemic in consequence of importation, why was it not often *imported* and *epidemic* during that long interval, when a very active commerce was incessantly maintained with the West-Indies, and when, for many years, the operations of war (the war of our revolution) carried multitudes of Europeans to those islands, where great numbers of them perished of that dreadful pestilence? This question more especially demands an answer, because, at that time effectual restrictions of quarantine were unknown in every part of this country.

ART. XXVI. *A concise History of the Autumnal Fever which prevailed in the Borough of Wilmington, in the Year 1802.* By Dr. John Vaughan. 8vo. pp. 32. *Wilmington (Delaware).* Wilson. 1803.

THE title will sufficiently announce that the author of this pamphlet rejects the opinion of the contagiousness and importation of the yellow fever, and that he considers it only

as a higher grade of the annual epidemic of the summer and autumn, in low grounds, and in places abounding with animal and vegetable filth. In order to bring the circumstances which relate to the origin and progress of this disease more distinctly before the public, Dr. Vaughan presents a topographical sketch of the borough of Wilmington, and then proceeds to state the facts, as they appeared to him, concerning the commencement of the epidemic, the extent to which it was spread, and the final extinction of it, by frost, at the close of the season.

A summary of Dr. V.'s opinions on this subject may be collected from the following quotation:

"On the most liberal view which can be taken of the rise and progress of the disease, with an unrestrained examination of the facts, as they occurred, I see no reason to suppose the insidious malady was of foreign origin or specifically contagious. On the contrary, I am firmly impressed with the belief, that it was the endemic fever of autumn aggravated to a pestilential grade by local filth, and the tropical state of the season, in conjunction with an epidemical state of atmosphere, which appears to have influenced the diseases of our country since the memorable year 1793. This belief is further predicated on the following facts and inferences.

"1. An epidemical state of atmosphere, favouring the occurrence of malignant fever, was evinced by the usual premonitory forms of disease.

"The measles were epidemic in the fall of 1801, and declined during the winter, giving place to the scarlet fever. The last winter was unusually mild, which gave birth to swellings of the glands, croup, and the influenza in April and May, 1802. June was, as usual, comparatively healthy, but chequered with some cases of cutaneous disease. In July the putrid sore-throat occasioned considerable alarm, and during the latter part of July and early part of August, the eruptive state of fever was extremely afflicting to children, and seemed to supersede the ordinary appearance of cholera infantum. In some cases general ulceration of the glands of the neck and axillæ were so obstinate as to require a complete course of alterative remedies.

"2. The season became tropical in the middle of August. The weather, from being uncommonly cool, suddenly became extremely hot, varying from 80 to 90°, with frequent gusts of rain and lightning. In the evenings of the 29th, 30th, and 31st, there were excessively violent thunder storms, from the westward, with torrents of rain. It was remarkable during the autumn, that all our sudden and violent rains came from the

westward, and commonly extended but a few miles along the Delaware. In misty weather the wind was mostly north-east. But the winds were unusually variable, not unfrequently traversing the compass in twenty-four hours—the changes of the weather were proportionably sudden.

" 3. Myriads of mosquitoes infested the lower parts of the town from July until frost, having gradually diffused themselves over the borough in September. The eldest of our inhabitants do not recollect this insect's being troublesome here in any previous season, while the unanimous report of persons from the fenny counties of Kent and Sussex, the annual haunts of these winged pests, was, that they were unusually free from them.

" 4. The sources of noxious effluvia in the southern and flat part of the town were much increased, by a regulation, but partially executed, for bringing the streets to an uniform descent from the summit of the hill. A number of cellars was filled with water—a new dock formed, and the gutters lowered in some places and raised in others, forming numerous depositaries of filth. These circumstances, added to the nuisance in King-street, rendered the air of that quarter offensive to the smell in the day time, and doubly so at night. After the 15th of September the air had a taint, resembling bilge water, especially after a light shower of rain and in the night, and more sensibly recognized by persons coming immediately from a higher region.

" 5. The fogs which collected in the evenings were suspended on the flats during the nights, gradually becoming more compact in the mornings, and mostly passed off in a dense cloud towards the Delaware, between seven and ten o'clock. This semi-circuit of the fogs, from Market-street, southward and eastward, was the seat of concentrated disease. Those fogs were condensed miasmata of fever, in a familiar garb.

" The seat of disease was so well defined until the 15th of October, that the inhabitants north of Third-street felt but little apprehension; and as the fogs became diffused, a few scattering cases of disease appeared, and removal was the only mean of safety.

" 6. The poisonous matter exciting disease was evidently a constituent part of the fogs. Many persons visited the infected district in clear weather and in the day time, without injury, and several of the same persons contracted disease by a single exposure in the night time, after the fog had collected. It also is remarkable, that the disease generally attacked in the night-time.

" 7. The non-contagious nature of the disease was repeatedly attested, by persons sickening after removal from the lower

to the higher parts of the town, and being nursed with every attention, and dying, without communicating the malady to their attendants. Also two sailors had the disease on board of different vessels at separate wharves, without affecting their companions.

"It is not denied that the more malignant cases of disease may be incidentally contagious, or rather re-infectious, under circumstances favouring a new chemical combination of the venomous offsprings of filth and putrefaction.

"8. A noxious state of atmosphere was manifested by the lingering state of convalescents, who remained in the contaminated region, while those who removed into the country were speedily restored to health.

"9. The indigenous nature of the disease was evidently characterized by the ultimate sameness of every form and grade of fever. After the middle of September, the subordinate forms and grades of fever, not arrested within 48 or 72 hours, invariably passed on to the malignant grade of disease. No matter how slight the attack, nor who the subject, the livery of pestilence sooner or later appeared; and valetudinarians, cases of pulmonary consumption excepted, suffered in the common fatality.

"Lastly, the rise, progress and confined state of the disease—the manner in which the fluctuating malady corresponded with the varying states of the weather—the non-communication of disease to the attendants on the sick, when out of the original sphere of infection, and the sporadic appearance of disease in other parts after the more extended fog on the 15th of October, with the final termination of the progress of infection by a single frost, are, in my opinion, evidences striking as the nature of the case will possibly admit, that the multiform disease which afflicted us was not of foreign origin, nor specifically contagious."

Whatever differences of opinion may exist in the minds of our readers on this long-contested subject, we are convinced that a perusal of this pamphlet will afford ample proof that the author states the facts, and his inferences and conclusions from them, in a perspicuous and judicious manner.

ART. XXVII. *A Treatise of the Law relative to Merchant Ships and Seamen. In four Parts. By the Right Hon. Charles Abbot, of the Inner Temple, Barrister at Law, and Speaker of the House of Commons. Enlarged with an Addenda, relative to some Laws and Customs of the United States. 8vo. pp. 342. Philadelphia. J. Humphreys. 1802.*

A SYSTEMATIC and well-written treatise on several branches of the maritime law has been long wanted by English and American lawyers. The work of Mr. Abbot is well calculated to supply this want, and is justly entitled to the approbation bestowed upon it by the lawyers and merchants of Great-Britain. The subjects treated of by him are, 1. Of the owners of merchant ships. 2. Of the persons employed in the navigation thereof. 3. Of the carriage of goods therein. 4. Of the wages of merchant seamen.

The difference between the London and American editions consists in the *additions* made to the latter of the laws of the United States relative to the same subjects. These are digested and arranged under the proper titles; and the value of the American edition is thereby considerably enhanced.

ART. XXVIII. *American Precedents of Declarations. Collected chiefly from Manuscripts of accomplished Pleaders; digested and arranged under distinct Titles and Divisions; and adapted to the most modern Practice. With a prefixed Digest of Rules and Cases concerning Declarations. 8vo. pp. 345. Boston. Manning & Loring. 1802.*

THE utility of established and approved forms of pleadings, and proceedings in courts of justice, is well known to every practising attorney. Of the numerous books of *entries*, ancient and modern, none are, perhaps, entirely useless, as no one collection of precedents will furnish what may be wanted in every particular case. Judicious selections of those *forms* which are the most often required, and best adapted to the ordinary course of business, by saving the expense of many volumes, and the time spent in searching for them, are highly serviceable to the legal practiser.

In this view, the volume before us, which appears to be chiefly intended for the profession of law in New-England, will be found a very convenient and useful work. In other

States, where a closer adherence to the common law forms of proceedings of the English courts is maintained, this collection can afford little or no assistance; since every attorney must prefer those books of entries, furnished by the laborious industry of the special pleaders of Westminster, which are sanctioned and approved by the practice of his own courts.

LITERARY JOURNAL.

INTELLIGENCE.

The My-attic or Mountain Ram.

THE following account of the *Mountain Ram* was given by Mr. D. M'GILLIVRAY, a gentleman from Canada, to Mr. E. SAVAGE, of this city, keeper of the Columbian Gallery. Mr. M'GILLIVRAY had a skin of the animal that he designed to carry with him to London, from which Mr. SAVAGE has made a handsome drawing, which is now in his Gallery.

"In the fall of 1800 I was on an excursion, on horseback, through the plains that are situated between the Sascatchievan and Mississourie Rivers, along the rocky mountains, accompanied by Mr. Thompson, a gentleman in the North-West Company's employ, five Canadians, and an Indian guide. Returning back to the north, we followed the course of the Bow-River into the heart of the mountains, with a view of examining them; and on the 30th November, at noon, we halted at the foot of the first ridge to graze our horses, and to ascertain our latitude. At a little distance ahead appeared a herd of small animals, which we took to be a species of the deer which are very numerous in that country. While Mr. Thompson was taking a meridian altitude, I went forward, with the Indian, to have a shot; and, on a nearer approach, was very much surprised to find, instead of deer, a herd of about twenty animals that were utterly unknown to me. Pleased with the discovery, I advanced very cautiously, keeping myself concealed from their view, to the distance of about sixty yards. Here I halted, and was examining them with all the curiosity that is natural for a man to feel on seeing any unusual appearance, when the Indian, impatient at my delay, and fearful of discovery, fired his gun, and killed a female on the spot. The herd, alarmed by the report, took to flight, and made for the rocks. Angry at the Indian's impatience, I pursued them with eagerness: he followed; and, in the course of the afternoon, we killed four more, two of which were young.

I had the satisfaction to shoot a large male, whose motions appeared to guide the flight of the rest. His superior size and enormous horns made him the particular object of my pursuit; and I have preserved his skin, with a view of presenting it to the Royal Society. During the winter I had frequent opportunities of hunting this tribe, which has enabled me to make a few observations on it that may be of advantage to naturalists, towards ascertaining the genus or species of this animal.

"The dimensions of the above male, taken on the spot where he was killed (namely, longitude 115 deg. 80 min. W. and latitude 50 deg. N.) are as follows; viz. length from the nose to the root of the tail, five feet; length of the tail, four inches; circumference round the body, four feet; the stand three and three quarters feet high; length of the horn, three and an half feet; and girth at the head, one and a quarter feet. The horn is of the circular kind, proceeding in a triangle from the head, like that of the ram. In short, this animal appears to be a compound of the deer and the sheep, having the body and hair of the first, with the head and horns of the last. The Crees, or Kristianeaux, distinguish this animal by the name of *My-attic*, or the ugly rein-deer. The slave nations, comprehending *Blood Indians*, *Piecans*, and *Blackfeet Indians*, called it *Ema-ki-ca-now*, which also means a species of the deer; but the Canadians, at first sight, named it the *Mountain Ram*.

"It is only to be met with in the rocky mountains, and generally frequents the higher regions which produce any vegetation; though sometimes it descends to feed at the bottom of the valleys, from whence, on the least alarm, he retires to the most inaccessible precipices, where the hunter can seldom follow him. His appearance, though rather clumsy, is expressive of active strength, and the nimbleness of his motion is surprising. He bounds from one rock to another with as much facility as the goat, and makes his way through places quite impracticable to any other animal in that country without wings. I know no animal which encourages pursuit so much as this. In his flight he frequently turns back, and stares at the hunter with a kind of stupid curiosity, which is often fatal to him. This ought, perhaps, to be ascribed to his ignorance of man; these mountains being so horribly desolate that they are but little frequented, except it be by some straggling war-parties of the natives.

"The mountain ram, or sheep, though not very often seen, is to be met with, in considerable numbers, in some parts of the mountains. I have, on several occasions, seen herds of twenty or thirty, but generally not more than two or three of

them together. Frequently I have been entertained with a view of one of them looking over the brink of a precipice several hundred yards above my head, scarcely appearing bigger than a crow, and bidding defiance to all approach. These frightful situations are quite natural to them. They run up declivities of hard snow or rough ice with facility. Pursuing them in these situations, I have been obliged to cut steps with my knife where they passed without difficulty. Sometimes you think their progress is stopped by a chasm or projecting rock; but if you attempt too near an approach, at one bound they are out of your reach.

"The female does not differ materially from the male, except that her size is much less, and she has only a small black straight horn like the goat. The colour and texture of the hair is the same in both, and they are all distinguished by the white rump and dark tail. In other respects the female greatly resembles the sheep in her general figure, and particularly in the timid, good-natured cast of the countenance. In winter they frequent the southern declivity of the mountains, to enjoy the sunshine; the lower regions, and the valleys, at that season, being covered with a great depth of snow.

"The flesh of the female, and of the young male, is a great dainty; for my own part, I think much more delicate than any other kind of venison: and the Indians, who live entirely on animal food, and must be epicures in the choice of flesh, agree that the flesh of the *My-attic* is the sweetest feast in the forest."

The *My-attic*, as it is here called, is undoubtedly the *Argali*, or wild sheep, described by Pennant* as inhabiting the north-east parts of Asia, as far as the latitudes of 50 and 60 degs. beyond lake *Baikal*, to the east of the *Lena*, and as far as Kamtschatka and the Kurile islands. Pennant hesitates about considering it as an inhabitant of America, though he had seen some wool taken from the dress of an *American*, and probably belonging to the *Argali*. He mentions "certain quadrupeds of this genus, observed in *California*, by the missionaries, in 1697; one as large as a calf of one or two years old, with a head like a stag, and horns like a ram; the tail and hair speckled, and shorter than a stag's. A second kind was larger and varied in colour; some being white, others black and furnished with very good wool. The fathers called both sheep from their great resemblance to them."†

The drawing and description of the *My-attic* will remove every doubt as to the *Argali*'s being a native of North-America.

* Arctic Zoology, vol. i. p. 13.

† Ph. Trans. abr. v. part ii. 195. History of Quadrupeds, vol. i. p. 44.

"The *Argali* abound in Kamtschatka; they are the most useful of their animals, for they contribute to food and cloathing. The Kamtschatkans clothe themselves with the skins, and esteem the flesh, especially the fat, diet fit for the gods. There is no labour which they will not undergo in the chase. They abandon their habitations, with all their family, in the spring, and continue the whole summer in the employ, amidst the rude mountains, fearless of the dreadful precipices, or of the avalanches, which often overwhelm the eager sportsman."

"These animals are shot with guns or with arrows; sometimes with cross-bows, which are placed in the paths, and discharged by means of a string whenever the *Argali* happens to tread upon it. They are often chased with dogs, not that they are overtaken by them; but when they are driven to the lofty summits, they will often stand and look, as if it were with contempt on the dogs below, which gives the hunter an opportunity of creeping within reach while they are so engaged, for they are the shyest of animals."*

A very accurate and satisfactory account of the *Argali* is also to be found in Pennant's History of Quadrupeds, vol. i: p. 44. 3d edit. The Russians call it the *Stepnoi Barann*, or the *Ram of the Desert*. It is mentioned also by M. Gmelin, in his *voyage by land to Kamtschatka*. This writer, and Buffon, are inclined to exclude it from the classes of the stag, the goat, and the sheep, and to consider it as constituting a particular class, resembling the *Musmon* of the ancients.† Its hair, the taste of its flesh, its figure, and vivacity, belong to the stag; but its permanent horns will exclude it from that class. Its head and horns are those of the sheep, but its hair and vivacity are points of difference between them. Its attachment to the mountains and rocks, and its furious combats, make it approach to the goat; but its crooked horns and want of beard, distinguish it from that class.

Mistake relative to the Generation of the Bear corrected.

In p. 106 of this journal we stated a conjecture concerning the mode of generation in the American bear, which we took from the Medical Repository, vol. v. p. 244.

On the authority of Mr. Samuel Brown, junior, of Brownville, we are enabled to correct the error into which we had been led by the writer of that article. In a letter to his brother, dated Brownville, July 24, 1802, he observes, that the reason why the female bear is never, or very rarely killed in a pregnant state, is, that almost immediately after rutting time,

* Arctic Zoology, vol. i. p. 14. History of Quadrupeds, vol. i. p. 50.
† Smellie's Buffon, vol. vi. p. 223. Strabo, lib. v. Pliny, Nat. Hist. viii. 49.

which is about the latter part of September or beginning of October, they retire to their holes, where they remain shut up until the young ones are born. The American bear of all animals is the most tender of her young. The cubs are never seen abroad with their dams until they are able to take care of themselves, and never quit them until rutting time the next year. These facts are confirmed by several respectable Canada merchants and Indian traders, who have seen female bears killed, in a state of pregnancy. Mr. John Culbertson, the present Indian trader for Kingston, informed Mr. Brown that he once had a tame bear, that was taken alive from its mother after she had been killed by the Indians. The same account of the bear is given by the Indians, who are the most likely to have the best knowledge of the manners of this animal, whose mode of generation resembles that of a hog, producing two or three young ones at a birth.

Improvement in the Construction of Salt-Works.

The Rev. Timothy Alden, jun. of Portsmouth, in New-Hampshire, has made some improvements in the construction of *Salt-Works*, for which he intends to apply for a Patent. We are not yet possessed of the description so as to explain the nature of this improvement.

Patent for Manufacturing Paper, from Straw, Hay, Thistles, and Refuse Hemp and Flax. By Matthias Koop, of Westminster.

For each pound of straw or hay a pound and a half of quicklime is to be dissolved, in about a gallon or six quarts of river water. The hay or straw is to be cut into portions about two inches in length, then boiled in a considerable quantity of water, viz. about two gallons to a pound of materials, for three quarters of an hour. It is then to be maceratedⁱⁿ in the solution of lime and water, for five, six, seven, or more days, taking care to agitate the mass, by frequently stirring and turning it over. At the end of this time the lime-water is to be drawn off, and the materials to be washed very clean, and boiled in a large portion of river water. This part of the operation is to be repeated, and, for the sake of improving the colour of the paper, one pound of dissolved crystals of soda or pot-ash may be used to every thirty-six pounds of straw or hay. When the materials are pressed out of the water, the manufacture of them into paper may be proceeded with by the usual and well-known processes. In some cases the Patentee has thought it adviseable to suffer the materials to ferment and heat before they were reduced to a pulp. This, however, will always depend upon the warmth of the season.

When thistles are used, they are to be cut down at the

time when the bloom begins to fall, to be dried, and reduced into lengths of two inches; and then the same process to be made use of as has been already described with regard to the straw and hay.

The manufacture from wood, bark, refuse hemp, and flax, is carried on by similar processes. The wood is to be reduced into shavings, and the outside rough bark is to be first scraped away. Wood containing much turpentine or resinous matter cannot be beneficially made into paper.

Mr. Koop does not mean to rest his invention upon the exclusive use of soft water: he lays claim to his privileges, although it should be hereafter found that spring-water is equally adapted to the purposes before mentioned.

Since our examination of the specification, the particulars of which we have now detailed, we have learnt that a nobleman is at this moment engaged in a course of experiments upon a vegetable substance, known in many countries by the name of *Couch*, hoping to be able to make paper from it.

[*Lond. Month. Mag.*]

*Anthony Cæsari de Poggi's (of London) Patent for improvement
in the constructing and using of Ordnance.*

The objects intended to be answered by this invention are, to produce a rapid fire, and to secure the men.

The improved gun is constructed from a calibre scale as usual; but the trunnions are nearly in the axis of the piece, and no more increase of weight is left behind them than what is sufficient to cause the breech to preponderate, and the piece to be steady on the prop that supports it behind at the moment of fire, and to descend when that support is withdrawn.

To regulate the elevation and depression of the gun, some machinery is fixed, consisting of a spindle, with pinions acting on two wheels, between which is a cylindrical barrel, and on this two double and single flat linked chains wind their ends, extending to the lower part of a fixed box, where two eye-bolts are fixed, and an iron pin runs through them, which is kept in by a nut, and the chain is kept closer at that end to enable it to wind without riding. The gun by this means is capable of being elevated or depressed by the turning of a winch. By putting a catch-bolt back the breech of the gun falls down on the axletree, and the charge being previously laid in the bore, immediately runs home. The gun is brought up by cords in an instant, and as speedily laid to the object by the machinery and contrivance of the carriage; by which means a rapid and destructive fire may be kept up, without exposing the men who load to the least danger in the operation.

Other contrivances for elevating and depressing the piece

are intended to be introduced; and all guns on the new construction may, if in any case it should be thought more advisable, be loaded and fixed in the usual manner, since the pieces and their carriages are not, by these improvements, rendered in the least unfit for the mode of manœuvring now used.

This specification contains also full descriptions of the *improved grenade gun, or long howitzer, and its sea-service carriage*; of the *sliding carriage*, constructed to admit of the guns being traversed to a very open angle with the ship's side; and of an *improved brass mortar and bed*. [Ibid.

New Publications, and Works preparing for the Press.

JAMES HUMPHREYS, of Philadelphia, has just published the second part of the third volume of *Robinson's Admiralty Reports*. This part brings the cases down to the 24th February, 1801.

Mr. Dunham, of Boston, has just published, in a handsome volume, *The Vocal Companion, and Masonic Register*; containing a judicious selection of masonic anthems, dirges, songs, charges, &c. a concise account of the origin of Masonry in America; and a very general list of the lodges in the six Northern States, and the names of their officers, and the number of members belonging to each lodge. This volume contains much information, and will be perused by the craftsmen with advantage and satisfaction.

The *Moral Monitor*; a collection of essays on various subjects, accommodated to the state of society in the United States, and displaying the importance and enforcing the observance of individual and social virtues; has just issued from the press of Mr. Thomas, jun. at Worcester. These essays are from the pen of the late Rev. Dr. Fisk, of Bloomfield.

Messrs. Munroe and Francis, of Boston, have recently issued the first number of their proposed edition of Shakspeare; containing Rowe's *Life of the Author*, Johnson's *Preface*, the *Tempest*, and *Two Gentlemen of Verona*, with Johnson's *Notes*.

E. Larkin, of Boston, has published an historical drama, entitled *A new World planted, or the Adventures of the Forefathers of New-England, who landed at Plymouth, Dec. 22, 1620*. By Joseph Croswell.

A new tragedy has been published at Worcester (Mass.) entitled *Fayette in Prison, or Misfortunes of the Great*.

David Longworth, of New-York, has in the press, *Judicial Opinions delivered in the Mayor's Court in this City, 1802*.

A new and elegant edition of *The Federalist*, in 2 8vo. vols. has just appeared from the press of George F. Hopkins.

Archibald Robertson, portrait and miniature painter, New-York, has published a work, entitled *Elements of the Graphic Arts*, intended to assist the student in drawing, painting, &c.

A. & A. Stansbury, of New-York, have just published, *An Inquiry into the Law of Merchants of the United States, or Lex Mercatoria Americana*, on several heads of commercial importance, and dedicated, by permission, to Thomas Jefferson, President of the United States. By George Caines, Esq. vol. i. large 8vo.

Dr. Barton, of Philadelphia, will soon publish his *Elements of Botany*, in one large 8vo. vol. with plates.

A new, correct and elegant *Map of the State of New-York* has just been published by Simeon Dewitt, Esq. Surveyor General of the State.

An History of the last Session of Congress, which commenced on the 7th of December, 1801, taken from the National Intelligencer, has lately been published by Mr. Samuel H. Smith, Washington.

Thomas and Andrews, and other Booksellers of Boston, have recently published, *Elements of Therapeutics; or a Guide to Health*; being cautions and directions in the treatment of diseases; designed chiefly for the use of students. By the Rev. Joseph Townsend, M. A. Rector of Pewsey, Author of the Physician's *Vade Mecum*, and of a Journey through Spain.

Evert Duyckinck, of New-York, has just published *Voltaire's Life of Charles XII. of Sweden*, with a head, in 12mo.

E. Larkin has just published *The English Reader, or Pieces in Prose and Poetry*, selected from the best writers, by Lindley Murray, author of English grammar, adapted to the different classes of learners, &c.—Sixth edition, corrected.

E. Lincoln, of Boston, is publishing, in numbers, *The Cheap Repository of Tracts*, a work admirably adapted for the instruction and improvement of youth; being a great variety of separate pieces, written in a pleasing style, and happily calculated to meliorate the heart.

The Philadelphia Company of Booksellers have now in the press, *Walker's Dictionary*, 8vo.—and the following works are now in the press, or preparing for publication, by individual members of the company: *Mavor's Voyages and Travels*, 20 vols. and continuation, 4 vols. *Hooper's Anatomist's Vade-Mecum*, 12mo. *Knox's Christian Philosophy*, 8vo. *Pinkerton's Modern Geography*, 2 vols. 4to. *Songs of Solomon*, by T. Williams; *Scott's Family Bible*, 4 vols. 4to. *Zion's Warrior, or the Christian Soldier's Manual*; *Converse with God in Solitude*; *Zion's Pilgrim*, by Robert Hawker; *Pocket Bible*, on pearl type; *Quarto Bible*, on paper of different qualities; *Romance of the Forest*, two vols. in

one; *Newtonian System of Philosophy improved; Medical and Physical Journal of London*, 7 vols. 8vo. with the continuations; *Simpson's Euclid*, 8vo. *Ferguson's Astronomy*, 8vo. *Franklin on Chess*; *Parent's Friend*, 2 vols. 8vo. *Ferguson's Lectures*. 8vo.

Messrs. Birch and Small, of Philadelphia, intend publishing *Willich's Domestic Encyclopædia, or Dictionary of Facts and useful Knowledge*, &c. illustrated with engravings; with additions applicable to the present situation of the United States, by James Mease, M. D. The work will be comprised in five octavo volumes, at two dollars and 50 cents each, in boards. The first volume will appear the 1st of April next, and a volume every three months after till the work is completed.

Mr. Woodward, of Philadelphia, is preparing for the press, and will shortly publish, *Philosophical and Critical Inquiries concerning Christianity*, by Mr. Charles Bonnett, of Geneva, F.R.S. Member of the Royal Academy of Sciences at Paris, &c. It will be published in a neat duodecimo volume, with a frontispiece of the author.

Mr. Woodward will shortly publish, *Oriental Customs, or an Illustration of the Sacred Scriptures, by an Explanatory Application of the Customs and Manners of the Eastern Nations, and especially the Jews therein alluded to; together with Observations on many difficult and obscure Texts; collected from the most celebrated Travellers and the most eminent Critics*. By the Rev. Samuel Burder, of London.

Messrs. Birch and Small, of Philadelphia, have in the press, *Blackstone's Commentaries, with Notes of Reference to the Constitution and Laws of the Federal Government of the United States, and the Commonwealth of Virginia*; with an Appendix to each volume, containing remarks upon such subjects as appeared necessary to form a systematic view of the laws of Virginia as a member of the federal union. By St. George Tucker, Professor of Law in the College of William and Mary, and one of the Judges of the General Court in Virginia. To be comprised in five octavo volumes. It is expected to be published in the course of the ensuing year.

James Humphreys, of Philadelphia, proposes to print, *Commercial and Notarial Precedents*, consisting of all the most approved forms, common and special, which are required in transactions of business; with an appendix, containing a correct abstract of the existing laws relative to bills of exchange, insurance and shipping, by James Montefiore, attorney and notary public of the city of London. In this edition it is intended to omit such parts as are altogether local to Great-Britain, or otherwise totally useless in America, and to add a number of such forms as are in established use in this country.

Abraham & Arthur Stansbury, of New-York, have issued

proposals, for publishing by subscription, *Modern Geography*, by John Pinkerton. The astronomical introduction by the Rev. S. Vince, A. M. F. R. S. &c. With maps, engraved under the direction, and with the latest improvements, of Arrowsmith. The work will be comprised in two octavo volumes, of about 800 pages each, with a 4to atlas of maps. The price to subscribers will be nine dollars.

Abraham & Arthur Stansbury propose also to publish an edition of *The Select British Classics*, from the last London edition, in 38 vols. 12mo, with 76 engravings. One volume to be published every fortnight till the whole is completed, at one dollar a volume to subscribers.

Davidson's Virgil is now in press, and speedily will be published, by Messrs. Swords, Duyckinck, Mesier, and Hopkins. This edition is printing under the inspection of Mr. Malcom Campbell, teacher of languages in the city of New-York, and may therefore be expected to be correct.

Thomas S. Arden, of this city, has just issued proposals for publishing the *Sermons* of J. B. Massillon, Bishop of Clermont.

Samuel Campbell, of this city, has in the press, *Travels in Upper and Lower Egypt*, during the campaigns of General Bonaparte in that country, and published under his immediate patronage, by Vivant Denon, embellished with numerous engravings. Translated by Arthur Aikin. This edition will be in 2 vols. 8vo. Price five dollars bound.

George F. Hopkins, of this city, is about publishing a new edition of *Thomson's Seasons*. It will be elegantly printed in a small duodecimo volume, hot-pressed, and embellished with engravings.

Mr. Samuel Bayard, of this city, has, for some time past, been engaged in preparing for the press, and intends shortly to publish, *An Abstract of those Parts of the Constitution and Laws of the United States, which relate to Justices of the Peace, and Judges of the County Courts of Common Pleas and Quarter Sessions throughout the Union*; to be illustrated by such parts of the English Law as are necessary to explain the principle and regulate the mode of proceeding under the Laws of Congress; together with various forms and precedents, taken from the English books, but adapted to the use of the American Magistracy.

Proposals have been issued by E. Sargent & Co. of this city, for publishing, in 3 vols. 8vo. *A Critical Review of Ancient Literature*, translated from the Lyceum, or course of ancient and modern literature, by La Harpe. The original work of La Harpe consists of 14 volumes; the first three of which comprise his critical account of ancient literature, and have been translated by a gentleman in this city. It is a work of great

reputation, and highly interesting to the lovers of literature and sound criticism.

The *Memoirs of the American Revolution, so far as it related to the States of North and South-Carolina, and Georgia*, by William Moultrie, late Governor of South-Carolina, and Major-General in the army of the United States during the American war, are in the press of David Longworth, of this city, and will be speedily published.

The Rev. William Collier, of New-York, proposes to publish, *Thirteen Sermons on the Attributes of God*. Translated from the original French of the Rev. James Saurin, Pastor of the French Church at the Hague. To which are to be prefixed, *Memoirs of the Reformation in France, and the Life of the Author*.

Evert Duyckinck has in the press, *Sir Alexander Mackenzie's Voyages from Montreal, on the River St. Laurence, through the Continent of North-America, to the Frozen and Pacific Oceans, in the years 1789 and 1793*; with a preliminary account of the rise, progress, and present state of the fur trade of that country. Illustrated with a map of his route, in one vol. 12mo.

C. R. & G. Webster, of Albany, have issued proposals for publishing *Practical Forms*: being chiefly designed as an Appendix to the Practice of the Court of King's Bench in personal actions. By William Tidd, Esq.

Proposals have been issued by Manning & Loring, of Boston, for publishing, in an octavo volume of 400 pages, *New-England's Memorials*; first published in the year 1669, by Nathaniel Moreton, Secretary to the Plymouth Company: to which will be added, a valuable tract, by the same author, composed in the year 1680, and which has never before been printed. Historical and explanatory notes will be added by the present editor, and a map of the old colony of Plymouth, with the Indian and English names.

Messrs. Russel & Co. of Boston, have issued proposals for printing an edition of *A Political and Historical View of the Civil and Military Transactions of Bonaparte*, from the French of J. Chas.

Messrs. West & Greenleaf have in the press the *Minor Encyclopedia, or Cabinet of General Knowledge*, in 4 vols. 12mo. by the Rev. T. Harris.

A new edition of *Belknap's History of New-Hampshire*, from a copy corrected and prepared by the author, will soon be put to press by Thomas & Andrews, Boston.

William P. Young, of Charleston, South-Carolina, has in the press, *A View of South-Carolina, as it respects Natural and Civil Concerns*. By John Drayton. It will be published in one volume octavo, with maps and illustrative engravings.

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In page 459, line 22 (in some of the copies), for "adopted" read added.

